

MISSOURI STATE BOARD OF HEALTH



QUARTERLY BULLETIN

NEW SERIES

VOL. 5.

JANUARY-MARCH, 1915.

NO. 1.

MEMBERS OF THE BOARD

F. H. Matthews, M. D. Pres.....	Liberty	T. A. Son.....	Bonne Terre
G. O. Cuppidge, M. D., Vice-Pres. .	Moberly	R. L. Wills, M. D.....	Neosho
J. A. B. Adcock, M. D., Sec'y...	Jefferson City	M. R. Hughes.....	Met. Bldg., St. Louis
T. H. Wilcoxon, M. D., Bowling Green.			

Dr. George H. Jones, State Bacteriologist, Jefferson City.
C. J. Kaiser, Statistician, Jefferson City.

CONTENTS

The Mouth.....	3-4	Report of State Bacteriologist.....	22-24
Minutes of Meeting, April 6, 1915...	5-7	Vital Statistics.....	25
Examinations.....	7	Table Deaths from 24 Important Causes.....	26
Chiropractors.....	7	Table of Births Filed in January, February, March.....	26
Try to Be the Fellow That Your Mother Thinks You Are.....	8	Table of Births and Deaths Reported (Stillbirths Excluded) During Quarter Ending March 31, 1915.....	27-49
Making a Ford.....	8		
A Sunset Fancy.....	8-9		
Tuberculosis.....	9-14		
The Negro Health Problem.....	15-21		



BULLETIN OF THE
Missouri State Board of Health
NEW SERIES.

VOL. 5.

JANUARY-MARCH, 1915.

NO. 1.

The Mouth.

The importance of caring for the mouth is not appreciated by the laity and I may go still farther and say the medical profession as a whole does not realize the necessity of careful and painstaking effort in the constant care of this most important organ.

I think I am entirely safe in saying, and I do not exaggerate in the least, that more diseases gain their entrance into the human economy by way of the mouth than by any other avenue.

The length of this renders it impossible for me to enumerate the different maladies which gain their entrance into the body by way of the mouth but just touching lightly on the subject I shall enumerate a few of the more important.

First I shall mention tuberculosis or consumption. Children and some adults think nothing of putting their fingers into their mouths carrying the dread tubercle bacilli.

Syphilis may be contracted in the same way, and so may also diphtheria, hookworm disease, dysentery, and a whole host of diseases too numerous to enumerate.

But aside from the care and prevention of introducing disease from without by way of the mouth I am safe in saying diseases originating in the mouth are of equal importance.

The neglect of the teeth and consequent development of pyorrhoea alveolaris and the whole train of diseases which result; can we over-estimate the importance of instructing the young in caring for their teeth?

Tell the uninformed that rheumatism often has its origin in a diseased mouth or that appendicitis may result from this

source and he will not believe you unless he has unusual confidence in you, but such is certainly the fact.

What is our duty then? Certainly to teach the importance of keeping the hands clean at all times and never thrusting the fingers into the mouth, never to put anything into the mouth which is unfit to take into the stomach.

They should be taught also the importance of visiting a competent dentist at least every six months and having their teeth examined, their gums treated and if cavities develop in the teeth they should be filled at once.

They should also call on their family physician occasionally so that he may acquaint himself as to the condition of the tonsils and the nasopharynx.

Children at school should be taught not only to keep their fingers out of their mouths but to abstain from putting coins, sticks, pencils, marbles and in fact anything into their mouths which they may not eat and swallow and digest.

It is impossible to estimate the saving of life these simple precautions would result in, and space precludes the possibility of touching only lightly on their importance, but surely, surely it can not be over-estimated.

Our public schools should teach the children that all objects may become contaminated and act as carriers of disease and death if handled carelessly or introduced into the system by way of the mouth.

It is gratifying to know that in some places teachers are availing themselves of the services of physicians to deliver lectures on sanitary subjects and on the all important subject of hygiene.

I certainly hope the custom will increase for only by education can we understand the importance of observing the simple rules of health preservation and what may be accomplished.

R. L. WILLS, Neosho, Mo.

Minutes of Meeting, Jefferson City, Mo., April 6, 1915.

The State Board of Health met in the Secretary's office April 6, 1915. Meeting was called to order by Dr. G. O. Cuppidge, Vice-President. All the members were present except Dr. Matthews, of Liberty; and Dr. Wilcoxon of Bowling Green.

Minutes of last meeting were read and approved.

Miscellaneous letters were read and discussed.

The committee appointed by the President to draw up resolution for undertakers, Dr. Wills, Chairman, made report as follows:

"Whereas it being the function of the State Board of Health to conserve the health of the people by every possible means and whereas the custom of certain undertakers of taking to the death chamber rugs, curtains, laces, ribbons and other articles which may take up and harbor pathogenic organisms of various kinds and believing this to be a menace to the Public Health; therefore be it resolved that from and after this date all funeral directors and others conducting such services be advised that it is the sense of this Board that all such practices cease and they be requested to take nothing to the death chamber except such wooden, rubber and metallic instruments and appliances as are absolutely necessary for the proper care of the dead body and such as can be readily disinfected."

This resolution was adopted by the Board.

Dr. Cuppidge, Chairman of the Committee on Resolutions, concerning barbers, made report as follows:

"It is hereby forbidden for any barber to try or attempt to remove any mole, wart or other facial blemish by any means whatever, or to treat any form of disease of any kind. No person can practice medicine and surgery, or treat the sick and afflicted with any bodily or mental disease, without first securing a license from the State Board of Health." (See Sec. 8315, R. S. 1909.)

This resolution was adopted by the Board.

Dr. Nicolas Jaime's application for reciprocity was presented to the Board by the Secretary. His application was unanimously approved.

The Board also approved the credentials of Dr. N. K. Pope, Jr., on reciprocity from Illinois.

The Board passed upon the grades of those who took the examination in St. Louis, Mo., March 22-23-24, 1915, for license to practice medicine and surgery in Missouri, with the result that the following passed the examination:

Bickford, Wallace Mellin
 Carle, Horace Woodward
 Cook, Frederick Marshall
 Craig, James Larkin
 Holt, Elmer Ellsworth
 Hunter, Hobart Russell
 Kilpatrick, Geo. Alexander
 Kleissle, W. Benton
 Lawson, Gustav Walfrid
 Lee, Elbert Johnson, Jr.
 McGlasson, Thomas Freeman

Martin, Clarence
 Martin, Prince Eugene
 Moore, Samuel Elijah
 Muns, Walden Evermont
 Penn, Robert McCulloch
 Price, Herbert Hall
 Sample, Wm. Dana
 Walthall, Solomon LeRoy
 Warfield, Sylvanus Holsey
 Weaver, Robert Ellis
 Young, John Smith

And the following failed:

Bateman, Samuel Harvey
 Edward, James Thomas
 Glasco, Loren A.

Neunlist, Percy Carl
 Walker, Theodore Lee
 Watson, Norman Mansell

There were eight who took the examination for midwife license, of whom the following passed:

Cepicky, Marie
 Miller, Anna M.
 Mueller, Lizzie
 Murray, Jennie

Mysliver, Stasi
 Stegmann, Dorothea C.
 Villi, Rosie

The Board approved the following list of physicians on reciprocity from other states whose papers have been approved and licenses sent out by the Secretary:

Atherton, J. L.	Illinois.
Atherton, Mary J.	Illinois.
Boyd, Almonty.	Kentucky.
Butterfield, E. R.	Illinois.
Button, M. A.	Oklahoma.
Corbin, S. W.	Iowa.
Daggett, A. W.	Illinois.
Foxworthy, O. W.	Iowa.
Hamill, J. R.	Iowa.
Huggard, T. S.	Illinois.
Jansing, J. H.	Oklahoma.
Kilpatrick, Thos.	Kansas.
Lamb, L. L.	Illinois.
Longdon, H. A.	Nebraska.
Malotte, K. R.	Illinois.
Miller, L. V.	Nebraska.
Mitchell, Enos.	Iowa.
Newton, Grant.	Kentucky.
Roberts, Geo.	Vermont.
Stearns, W. A.	Nebraska.
Wood, Geo. W.	Indiana.

The Board adjourned for lunch and reconvened at 1.30, and was called to order by Vice-President Dr. Cuppaidge.

Oral examinations were made of Drs. Hermon S. Major, P. F. Cope, and T. H. Renn. The result of the examinations was that all three passed.

Moved and carried that the next meeting of the Board for transaction of miscellaneous business be held in St. Joseph, Mo., May 10, 1915.

Adjourned.

Examinations.

The Missouri State Board of Health will conduct examinations in St. Louis, Mo., at the Gymnasium of St. Louis University, on June 21-22-23, 1915, for license to practice medicine and surgery in Missouri.

On the 23rd examination will be made of those desiring license to practice midwifery in the State of Missouri.

On the 24th the Board will meet in business session for the transaction of such business as may come before it.

Chiropractors.

Charles E. and Stella R. Hendricks, who have been practicing medicine and surgery and treating the sick and afflicted in Jefferson City for the past four or five months, under the title of Chiropractic Adjusters, were fined \$50.00 each in the Circuit Court of Cole County, April 27th, for violating the medical practice act.

These people treat all manner of diseases by adjusting a luxation or sub-luxation of the vertebrae. One lady they had been treating some three or four months for deafness. For this trouble they had adjusted what they called a sub-luxation of the fourth cervical vertebrae, which I presume they had some trouble in keeping in place as her deafness was still greatly in evidence.

J. A. B. ADCOCK, M. D.

Try to Be the Fellow That Your Mother Thinks You Are.

While walking down a crowded city street the other day
I heard a little urchin to a comrade turn and say:
"Say, Jimmie, let me tell yer, I'd be as happy as a clam
If I only was de feller dat me mudder t'inks I am.

"She t'inks I am a wonder and knows her little lad
Would never mix wit' nottin' dat was ugly, mean or bad;
An' lots o' times I sit and t'ink how nice 'twould be—gee whizz,
If a feller was de feller dat his mudder t'inks he is."

So, folks, be yours a life of toil or undiluted joy,
You can still learn a lesson from the small unlettered boy;
Don't try to be an earthly saint with eyes fixed on a star—
Just try to be the fellow that your mother thinks you are.
—From "Noodles" Fagan of the Kerr Turbine Company.

Making a Ford.

(Dedicated to Huld.)

There was an old man and he had a wooden leg;
He had no money, no money would he beg;
But he had a piece of pipe and a twelve-inch board,
And he said to himself, "I'll make a little Ford."

With a gallon of gas and a quart of oil,
A piece of wire to make a coil
Four big spools and an old tin can;
He hammered them together and the d—n thing ran.—Stolen.

A Sunset Fancy.

Tonight as I sat at my window
As the West was all a-gleam
With that strange and beautiful fancy
That is fleeting as a dream,
I thought that the hands of angels
Had swung Heaven's gateway wide,
And I caught some glimpse of the glory
From the hills on the other side.

Is it not a beautiful fancy?
This sunset thought of mine:
That the gates of Heaven are always
Open at the day's decline;
That those whose day is ended
Of earthly woes and ills,
Have passed to the morning brightness
That shines on the Heavenly Hills.

Perhaps while I sat there dreaming
 Of the gateway in the West,
 Some poor soul went through its portal
 To a long and endless rest—
 Went in through the sunset gateway
 To the City paved with gold—
 Passed on to the New Life's Gladness
 To be no longer old.

When for me the sunset gateway
 Shall at day's decline unclose,
 And I enter through its portals
 To a long and sweet repose;
 I know I shall remember,
 In that land so fair and far,
 My strange and beautiful fancy
 Of the sunset gate ajar.

—Unknown.

TUBERCULOSIS.

Of what worth to you?
 and to the State?
 is the life of your child?
 Any man's child?
 Any woman's?
 What would you do to save it?
 and what should the State?
 What is the loss
 when his life is taken?
 and what does it cost to take it?
 Who suffers the loss?
 Who pays the cost?
 How will you stop it?
 The answer is here
 for one life in nine
 IN MISSOURI.

NOTE:—This circular and its distribution is paid for with money earned by the children of the schools of Missouri—public, parochial and private—selling Christmas seals. They plead for healthful lives—for themselves and for children to come.

The Missouri Association for the Relief and Control of Tuberculosis
 Office of Secretary, Columbia, Missouri.

FUNDAMENTAL FACTS PERTAINING TO TUBERCULOSIS.

Tuberculosis is caused by a germ and is not inherited. It is a disease which may affect any part of the body. It occurs most commonly in the lungs—consumption. It frequently affects the lymph glands—scrofula, or the bones and joints—hip-joint disease, white swelling, hunch-back. Being an infectious disease it is communicable, or catching.

How It Is Taken.

It is most commonly caught from consumptives who are careless of their sputum or spit. A single drop of this sputum may contain millions of germs of tuberculosis. A consumptive should not cough, sneeze or speak into the face of another. He should spit into a vessel containing a disinfectant or into a cloth or onto a paper and burn it. He should not spit on the floor or sidewalk. He should kiss no one nor handle food or eating utensils without first washing and disinfecting his hands. Sputum, when dry and powdered, arises as dust and may be inhaled by others, or it may settle on food or on objects from which the hands of others may be contaminated. No one whether sick or well should eat from unwashed hands.

A Disease of Childhood.

The disease is most commonly taken by young children from tuberculous parents or friends who kiss or caress them, or from floors, food, clothing or other articles which have been contaminated with tuberculous sputum. It is probable that four out of five children have been infected in this way, that one out of ten have been infected from the meat or milk of tuberculous animals. The drift of opinion of medical investigators is toward the belief that tuberculosis is essentially a disease of childhood. That all who are infected with the disease in childhood do not suffer from it in later life is due to the fact that their general health has been maintained by nutritious food, fresh air, sufficient sleep, lack of worry and overwork, and that they have not been subjected to the depressing effects of other infectious diseases such as measles, whooping cough, typhoid fever, pneumonia, etc., whereby their resistance to the tubercle bacillus and its poison has been diminished.

It Is Preventable and Curable.

Tuberculosis is not only preventable but is curable if treated early. Do not delay consulting a physician if you have a cough that has lasted for a month and you are losing weight and appetite. A run down feeling with slight fever in the afternoon is strongly indicative of consumption. If you frequently sweat at night and you raise blood, you need medical advice at once. Insist upon the physician's examining your bare chest and back and his telling you frankly if tuberculosis be probable. Do not delay treatment till the germs of tuberculosis are found in your sputum. Under no circumstances should you dose yourself with alcohol or patent medicines. They make matters worse. Medicine may be used to advantage when prescribed by a physician, but the tendency of the best physicians today is to limit the treatment of tuberculosis to open air by day and night, sunlight, cleanliness of person and surroundings, rest in bed, and sufficient wholesome food. Children, be they tuberculous, anemic or well, thrive and make more rapid progress in their work in open air schools than in closed schoolrooms.

How It Shall Be Fought.

There are three general ways of fighting the disease, 1st, by preventing infection in childhood, 2d, by arresting or curing the disease in its early stages, 3d, by disinfecting or destroying the sputum or other infectious discharges from tuberculous patients in the later stages of the disease. Intelligent and willing patients may do this for themselves if taught how. Patients who are unwilling or unable to do this for themselves should be cared for in hospitals which are maintained and managed by the state or county or in private hospitals

that have been approved by the State Board of Health. The whole matter of the prevention of tuberculosis and the care of tuberculous patients rests finally upon the education of the people of the state. Each person must be taught how to protect himself, and if he be tuberculous, how to protect others from infection. He should know what part his town, county or state should perform in the movement to suppress tuberculosis.

What the Local Community Should Do.

In each city and in each county an anti-tuberculosis society or an anti-tuberculosis committee of an already established philanthropic, civic or commercial society or club, should be organized to conduct a popular campaign of education against the disease. It should further any movement for the care and training of tuberculous patients. This can be done best by:

- 1st, Providing free medical service for the diagnosis of the disease,
- 2d, Instituting tuberculosis visiting nurse service,
- 3d, Maintaining city or county tuberculosis hospitals for treating advanced and incurable cases, and
- 4th, Establishing open air schools for anemic and tuberculous children.

What the State Should Do.

The state should enlarge the capacity of its sanatorium for the treatment of incipient cases of tuberculosis, especially for children. Either the present sanatorium should be enlarged or other state sanatoria should be provided whereby five times as many patients can be cared for as now. The legislature of the state should enact laws:

- 1st, To compel the registration of living cases of tuberculosis,
- 2d, To control the transmission of the disease from one individual to another,
- 3d, To enable cities and counties to tax themselves to maintain tuberculosis visiting nurse service and to construct and maintain hospitals for the care of advanced cases of the disease,
- 4th, To provide for state wide systematic education pertaining to tuberculosis, in both public and private schools.

You Can Help Fight Tuberculosis by Buying Red Cross Seals.

THE ECONOMIC ASPECT OF TUBERCULOSIS.

The nation-fostered industrial development of Germany has been the most determinant cause of the great European war which is affecting in some way and to some degree, every home in the civilized world. In outlining her program of industrial and trade expansion, she has always kept the health and longevity of her people in her field of vision. Within a state-supported German laboratory, Robert Koch discovered the tubercle bacillus and determined its causative relation to the world-wide plague—tuberculosis. Within her borders, consistent with her industrial ambition, she established the first tuberculosis sanatorium and she maintains today the most efficient system for saving lives from death by that disease. She will bring the "white plague" under control, in her own methodic way.

In the struggle for trade and population supremacy, whether entered into by nation, state or city, the health and long life of its people are coming to be recognized as the most valuable of a community's assets; their conservation, the most important of its functions. The cost of tuberculosis in Missouri and the earnings which an investment in the establishment and maintenance of

sanatoria and tuberculosis hospitals may be made to yield, expressed in dollars and cents, are startlingly great. Applied in argument they would be more effective if they were less. They surpass belief.

The Loss to the Nation.

Dr. Irving Fisher, professor to economics in Yale University, has made investigations into the loss or cost of tuberculosis and has submitted the results of his research in terms of dollars and cents. Without going into the details of the methods he employed in his investigations but which are simple commonsense methods applied in a scientific, systematic way, giving figures step by step that cannot be called into question and then summed up with adding machine, he estimates the loss to the United States from this disease alone, to be \$1,235,000,00 a year. This includes the cost to the patients themselves, not only from money expended on account of sickness, but also from the loss of wages from disability and from the loss of earnings in a future, interrupted by death.

The Cost to Missouri.

Pro-rated to Missouri on the basis of the number of deaths from the disease in the year 1911 (5113 deaths), the year of Dr. Fisher's investigation, the total loss to the state was \$40,740,384, apportioned as follows:

Loss to patients themselves	\$21,999,807.00
By sickness	\$ 4,888,846.00
By death	17,110,961.00
Loss to others	18,740,577.00
By sickness	7,333,269.00
By death	11,407,308.00
Total	<hr/> \$40,740,384.00

In a recent report upon the losses from tuberculosis in Chicago, Dr. Theodore B. Sachs estimates the cost to that city at \$30,000,000. Pro-rated to Missouri as above, his estimates would give \$40,890,192.

Data for Computation of the Losses.

Dr. Fisher based his computations on data as follows:

1. The mean after-life of the average person living at the ages at which consumptives die is taken as 32 years.
2. The mean after-life which the consumptives would have had, had they not fallen victims to tuberculosis, is taken as three-fourths of that of the average person, or 24 years.
3. The productive period of life is taken as between 17½ and 60 years of age.
4. The part of the consumptive's lost "mean after-life" (24 years) which would have fallen within the above productive period is 17 years.
5. The period of total disability preceding death, during which period the patient earns nothing toward his own support, is taken as 1½ years.
6. Preceding total disability, the period of partial disability, during which he is supposed to earn half his former earnings, is also taken as 1½ years.
7. The average earnings of all workers in the United States, including working children and working housewives (their work, though not rewarded by money, being appraised in money) is taken as \$700 per annum. This includes, wages, salaries, and profits in business and in the professions.

8. The average cost of supporting and caring for the consumptive during the period of total disability is taken as \$1.50 a day.

9. The ratio of actual workers to those of working age is taken as three-fourths.

10. The workers, including working housewives, are supposed to constitute 45% of the population.

11. These workers are supposed to consume 60% of their own earnings, and their dependents the remaining 40%.

How These Data Are Used.

The average earnings of \$700 per year for 17 working years in the future are discounted at 5% and thus converted into present value. Forty per cent of this gives the loss to others from the consumptive's death. This is added to the loss of \$700 earnings per year for 1 ½ years preceding death, plus half that amount for the preceding 1 ½ years of partial disability and \$1.50 a day for the cost of support during the period of total disability. The total is then multiplied by the number of deaths per annum. On the basis of the data given we may conclude that each of the 5113 persons who died of tuberculosis in Missouri in 1911 cost others than the patients themselves at least \$1400 before death and \$2300 by death. It is estimated that the cost of care and the loss of wages of the disabled but living patient is approximately \$1,000 per year. In these estimates Dr. Fisher takes no account of the cases of tuberculosis which recover nor does he take into consideration the cost of tuberculosis occurring in the domestic animals. The life insurance companies of America notwithstanding their rigid inquiry into the life and family history and the thorough medical examination, of applicants for policies, attribute \$11,000,000 of their losses in each year to tuberculosis, about 23% of their total losses.

The Loss from Tuberculosis Is a Tax.

The tax of tuberculosis on the people of the United States is nearly equal to the total taxes raised in duty and internal revenue combined. The losses in Missouri incurred by the "white plague" is equivalent to a state tax of \$2.93 on every \$100 assessed property valuation, twelve and one half times the state tax levy, which now, while we are building our new capitol is nineteen cents. It is equivalent to nearly three times the annual cost of our public schools, including all outlays for interest, building sites, erection of buildings, instruction and other service. In still other words, the loss from tuberculosis is equivalent to a tax of ninety-three cents on every acre of land in the state, whether tilled, cleared or uncleared. Any one can ascertain the annual loss, or tax, from tuberculosis in his community, whether municipal or county, by multiplying \$7970 by the number of deaths from the disease in any year, nearly one-half of which product (48%) is suffered by the community itself, outside the loss to the patients themselves.

Will It Pay to Prevent?

In considering tuberculosis from a financial point of view, we must have regard not only for loss or cost but also for what it will pay to prevent. Tuberculosis sanatoria and hospitals are of comparatively too recent origin to afford wholly satisfactory data for the estimation of their commercial value to the community. Quoting with some freedom of expression from a paper written by Dr. David R. Lyman, medical director of the Gaylord Farm Sanatorium New York State, on the results achieved by that institution since its opening in Sept. 1904, up to May 1st, 1911, the facts may be presented briefly as follows:

In that time 676 cases had been discharged and had been away from the sanatorium for 6 months or longer. Of this number 9 patients were lost from record and 34 were children without earning capacity, leaving 638 cases for study. The cases treated included patients in the incipient stages of the disease as well as those who were moderately advanced and those who were in its last stages. The 141 incipient cases showed average total earnings of \$1,020.60; the 373 moderately advanced cases, \$842.22; the 120 far advanced cases, \$192.10, all for an average term of about three years. The same ratio held good in the several classes of cases in the relation of "weeks of work" to "weeks of life," the incipient cases showing a working capacity of 70% of their total time since discharge; the moderately advanced cases, 59%; the far advanced cases, 23%. The average weekly wages varied but little, being \$11.21, \$12.03, and \$12.00 for the three classes in the order named.

The permanent investment in land, buildings, and equipment was \$132,292.86, interest on which sum at 5% to the date of investigation was \$30,919.18. The cost of maintenance up to the date of investigation was \$205,824.65. Within the period under consideration the sum of the cost of interest on the investment and the cost of maintenance amounted to \$236,744.51, whereas the amount earned by discharged patients amounted to \$464,406.00—a return of almost 200%, within six years from the commencement of the work. If to the wages already earned be added the present value of the wages which these patients may be expected to earn in the future, we have a total present valuation of \$2,180,000 as a return on the investment within six years. That is, for each dollar invested, the investment returned about nine dollars, of which about four dollars is presumably enjoyed by others than the consumptives themselves. "We all know," says Dr. Fisher, "that we get a richer return if we begin earlier than the sanatorium. 'An ounce of prevention is worth a pound of cure.' What rate of return it would pay to provide by registration, isolation, and education of all infectious cases is 'simply beyond the dreams of avarice!'"

In Missouri.

The state sanatorium at Mt. Vernon reports that cases of incipient tuberculosis are discharged from that institution as "apparently cured" at a total outlay of \$300.00 per patient. The St. Louis anti-tuberculosis society announces that tuberculous children are dismissed from the open-air school as cured at a cost of \$100.00 each, and that at the same time they have made as good progress in their school work as normal children in ordinary schools. Nine city anti-tuberculosis societies or committees in Missouri have shown that tuberculosis visiting nurse service can be provided for at an expense of \$100.00 per 1,000 population per year. The statutes of Missouri provide that "special instruction as to tuberculosis, its nature, cause and prevention . . . shall constitute a part of the course of instruction, and be taught in all public schools supported wholly or in part by public money or under state control." (R. S. 1909, Sec. 10,806.) To prevent the spread of tuberculosis, Missouri should provide by law for the care of consumptives who can not, will not, or are financially unable to care for themselves. It has been found that this can be done best in county tuberculosis hospitals and not, for many reasons, at the "poor farm."

THE NEGRO HEALTH PROBLEM.

L. C. ALLEN, M. D., *Hoschton, Georgia.*

Read before the General Sessions, American Public Health Association, Jacksonville, Fla., November 30-December 4, 1914.

The negro health problem is one of the "white man's burdens," and it is by no means the least of those burdens. It is at once the most serious and the most difficult health problem with which the people of the South are confronted.

The statement that "None of us liveth to himself, and no man dieth to himself" is as true today as it was when the Apostle penned it to the Romans nineteen centuries ago. And it applies with as much force to our "brother in black" as to any other man. Because of the fact that no negro liveth to himself nor dieth to himself the negro health problem is not alone a question of concern to the black man, but is one of equal moment to the white population in communities where the negroes are found in any considerable numbers. Disease germs are the most democratic creatures in the world; they know no distinction of "race, color, or previous condition of servitude." The white race and the black race will continue to live side by side in the South, and whatever injuriously affects the health of one race is deleterious to the other also. Disease among the negroes is a danger to the entire population.

Communicable diseases find their favorite propagating grounds in the dirty negro sections of our cities, and in unsanitary negro homes in the country. From dirty homes, in these disease-infested sections, negro people come into intimate contact with white people every day that passes. We meet them in our homes, offices, stores, in street cars, and almost everywhere we go. The fact is not pleasant to contemplate, but is nevertheless true, that there are colored persons afflicted with gonorrhea, syphilis, and tuberculosis employed as servants in many of the best homes in the South today. In every instance the employer is, of course, unaware of the risk being taken. Various diseases are often spread in this way.

It is undoubtedly true that the negro race has deteriorated physically and morally since slavery times. In some ways he is perhaps more intelligent, but freedom has not benefited his health, nor improved his morals. There is more sickness and inefficiency and crime among them now than before the war. All old physicians tell us that in slavery time consumption was practically unknown among the negro race. This fact, I believe, is thoroughly established. But how is it with them now? The figures speak for themselves. In the year 1911, as set forth in Census Bulletin number 112, the death-rate per one hundred thousand from tuberculosis of the lungs, in the registration area, was 162.2 for the whites, and 405.3 for the negroes. In other words, the death-rate of the colored people from this disease is *more than three times the death-rate of the white population*. In Jacksonville the rate for the whites 154.4; that for the negroes is 319.5. In Atlanta the white rate is 109.9, the black rate 297.4. In Savannah the white rate is 118, the black rate 328. Everywhere you look the proportion is about the same.

Because of the excessive death-rate among the negroes from tuberculosis the impression has gone forth, and has been widely accepted as true, that the negro race has a peculiar susceptibility to this disease. When all the facts are considered it seems to me that such a conclusion is not justified. Why was the negro free from tuberculosis during slavery time? The answer is obvious. Then he was disciplined; then he was made to bathe, and to keep clean; he was furnished a comfortable cabin in which to live, which he was required to keep

scrupulously clean; he was given plain, but wholesome food, in generous quantities; he was made to stay at home at night, and rest, that he might be able to work; he was not allowed to roam the country, but was kept at work regularly, and was taught how to do his work in a skillful manner; he was not allowed liquor, nor indulgence in vicious pleasures; if he became ill the best physician obtainable was called to treat him. The health of the children was carefully looked after. It was to the slave owner's interest to do these things. The more efficient the slave the more valuable he was. A sickly negro was of very little value—a dead negro none. There was no more healthy race of people to be found anywhere in the world than the slaves of the South before the Civil War.

When freedom came, and all restraints removed, the negro began to indulge in all kinds of dissipation, and to practice all the vicious habits known to civilization. He now had to "shift for himself," and not having any experience in providing a living for himself and family (because the master had always done this) and thinking that freedom meant release from all work, he got along very badly. Like a child turned out in the world, homeless and penniless, he became the prey of any rascal who was disposed to take advantage of his situation. To make bad matters worse, his unwise friends rashly gave him the ballot before he was sufficiently intelligent to use it properly. Then, designing politicians, with insane political propositions and policies, proceeded to stir up all manner of race hatreds and prejudices, which had not existed previously to that time, and which has not yet entirely disappeared, but which, I am glad to say, is gradually passing away. All this was bad for Cuffy—dreadfully bad. Hurtful ideas got into his head. He became unreliable. Criminal tendencies grew upon him, and evil ways overcame him. He was prosecuted and persecuted. He often went hungry, picking up food when and where he could find it. His clothes became ragged, his home filthy, his children neglected. Disease began to prey upon him. From this deplorable condition into which the negroes were precipitately plunged at the close of the Civil War, they have not yet emerged. The present generation of negroes have grown up amid very unfavorable surroundings, and without home training, or discipline. Many of them have not had a bath since infancy. They live very irregular lives. They often roam about at night, some of them indulging in licentious debaucheries of the most disgusting character. Their homes are filthy, and their home language unchaste. Their girls early learn evil ways. Ignorance and superstition take the place of science and skill in the care of infants. I have never seen a negro mother who was unable to nurse her infant at the breast, but notwithstanding this fortunate circumstance the death-rate from enteritis and diarrheal diseases is excessive among them, being, in children under two years of age, 75.9 for the whites, and 111 for the negroes. It is the lack of physical and moral cleanliness that causes the death-rate to be so much more among the negroes than it is among the whites. Go into their homes and investigate for yourselves. You will never realize the true situation until you do. In the homes of the best of them you will find the front part of the house in pretty good condition, but the kitchen and back yards are neglected. In most instances the house in which the colored man lives is too small for his family. Miss Frances M. Kinney, a colored lady of intelligence doing social work among the negroes of my county, under the direction of our board of education, in a letter to me says: "I have in mind now a family of twelve living in a three-room cottage. They sleep without any ventilation whatever, and are as filthy as pigs. They go half-clad, and from three to four sleep in one bed, some sleeping in the cook room." Again she says: "The men and boys are stronger and healthier than the women and girls." She says the women in the rural communities do more work than they are able to do, often doing as much work in the field as the men, besides doing the cooking and house-keeping. She continues: "The next generation of negroes will be weak, yes,

consumptives, unless something is done to strengthen and protect our girls, who are to be the mothers of the next generation." Miss Kinney goes on to say that her people are very careless with contagious diseases, allowing children to eat and drink after patients afflicted with consumption, and to sleep with such persons.

Again, old physicians tell us that in antebellum days the negro race was practically free from venereal disease. Now syphilis and gonorrhea are very common among them. In fact very few negroes escape one or the other of these diseases. Many negro women have gonorrhea, and pay little attention to it. This is a very real menace to our white boys, and through them, after marriage, to our innocent daughters also. For, despite our best efforts, many boys are going to sow wild oats. Even Solomon the Wise, in his mature years earnestly exclaimed: "Remember not against me the sins of my youth." Evidently the old king had reference to his youthful wild oats. Sterility among the negro women is becoming quite common as a result of the activity of the germs of Neisser. The birth-rate among them is diminishing. The tremendous amount of evil that venereal disease is doing the negro race is incalculable. If the spread of syphilis, gonorrhea and tuberculosis among the American negro is not checked, this once physically superb race will become extinct with a few generations.

I contend, then, that it is not a peculiar racial susceptibility to tuberculosis that is causing this disease to destroy so many people among the negro race, but his environment—his bad habits and his insanitary conditions of living. The same causes operate to produce a high death-rate from other filth diseases. Take for instance puerperal fever. The death-rate from puerperal sepsis in the registration area is just about twice as great among the negroes as it is among the whites. But for the circumstance that all negro mothers nurse their infants at the breast the death-rate among their babies would be appalling. I suppose that when negro women adopt modern styles of dress, and modern social customs, they will also begin to give their babies the bottle. By an examination of the Census Bulletin referred to above, and other health reports, it may be seen that those diseases that are caused from filth, contagion, carelessness, insanitary living conditions, and exposure to cold have a high death-rate among the black population. The death-rate from pneumonia is 128.4 among the whites, while among the negroes it is 252.2. Other diseases that have a notably high death-rate among the negroes are: smallpox, typhoid fever, whooping-cough, rheumatism, influenza, and organic heart disease. It is worthy of remark that the negro race possesses, apparently, a notable degree of immunity to scarlet fever, the death-rate from this disease being eight times as high among the whites as it is among the negroes. According to my personal observation enlarged tonsils and adenoids are extremely rare among them. Mouth-breathers are infrequent.

Negro children, as a rule, are neglected, not receiving proper training at home. Their ailments are given too little attention. Food is often lacking. Parents are incapable of giving their children proper care and training. The schools teach only book-learning. Many are allowed to grow up in idleness, and often acquire habits of indolence and vice.

The negro's health condition will remain bad until his intelligence is greater, and until his financial condition is improved. On account of his poverty, his food is of the cheapest variety, and it is badly cooked. It is a real wonder how millions of negroes manage to live and do good work on the kind of food they are forced to eat, and the character of cookery they get. Frances Kinney, herself a negress, has lived and worked among negroes all her life and knows what she is talking about when speaking of the negroes. In a letter to me Miss Kinney says: "The average colored family live principally on meat (bacon) and bread, which is poorly prepared, especially for school children. The meat is generally

fried, and lunches are put up hot in tin buckets, and on opening at lunch time the food has a very disagreeable odor, often driving away the appetite of a delicate child. The meat is soft and soggy, and the bread is in about the same condition."

In answer to a question Miss Kinney says: "The colored people do not have any regular hours to take their meals. They are very careless indeed about going to bed, but get up at a pretty regular hour. It is common for a family to sit up until 12 or 1 o'clock at night, and get up at four in the morning. Many of the women work until a late hour, but when not at work they naturally sit up from force of habit. This habit was handed down to us from a former generation."

I asked Rich Young, a preacher and school teacher, if it were true that his people, as a rule, sit up late at night. He answered that it was true, and that many of them *stayed up all night*, and that many of them roamed the neighborhood at such times.

There is no doubt that the habit of staying up late at night, and even all night, is common throughout the negro world. This habit is helping to undermine the negro constitution. It was not allowed in slavery times.

A noticeable defect in the negro character is the want of initiative. He waits to be told. Give him orders, tell him what to do, and set him at it, and he is all right. This lack of initiative in the negro character has far-reaching effect on the condition of the race. But I cannot go into this here.

Habitually careless about most things, the negro is especially careless about caring for the sick. Frances Kinney says: "The day has come throughout the country that you suffer when you get sick if you are not a member of some good society, or club. In the church it takes all the money for the preacher, and he hardly ever has anything. The negroes are only too ready to shield and protect a criminal, whom they regard as a sort of hero, but a sick negro they often regard as a nuisance. In the majority of negro families the sick are never bathed, and their clothing and bed clothing are not changed for weeks at a time. The room is not aired, or kept clean. In rural communities the negroes often live inconvenient to physicians, and they have no money with which to employ medical attention. In my county it is a common practice for landlords to employ physicians to look after their tenants. Physicians also do a great deal of charity work among them, but they cannot do all that needs to be done."

The negro is not lazy. He is not afraid of work. He will undertake hard jobs which the white man shirks. But he loves carnal pleasure, and he lacks self-control. In other words, *he possesses powerful propensities for pleasure, but his inhibitory centers are rudimentary and weak.* This important fact should never be lost sight of in studying any negro problem. This peculiar mental make-up accounts for many of his follies, and most of his crimes. He is unable to withstand temptations and enticements. In slavery times his master's authority restrained him. For this effective control our preaching and teaching have proved a "broken reed."

The negro men love to frolic with the women; and the women love to frolic with the men; so they frolic. The negro loves to drink—and he drinks. He is especially fond of congregating with other negroes, and this is the reason he stays up so late at night. He attends church regularly—unless there is somewhere else to go. He goes to all the shows and picnics. He attends all the camp-meetings, and—all the dances. At such places he often gets into a scrap with some other negro, and shoots him or stabs him, or else "gets it in the neck" himself. It matters not how grassy his cotton, if the railroad runs an excursion anywhere he will go or die. He never misses a funeral. I once had working with me a negro man who made me a good hand, except that he would sometimes get drunk. But every time a negro died anywhere he had some excuse for going to the funeral. He would come and ask permission to go, stating that the dead

negro was his uncle, or his aunt, or his cousin, or some other relation. Never a negro died anywhere that was not some kin to him.

In going to these places of amusement the negro loses a large part of his time, and causes his employer much annoying inconvenience and loss.

Every one conversant with the facts admits that the negro health problem is an important problem, which imperatively demands attention. The question is: What are you going to do about it?

After all, the problem does not differ greatly from the same problem regarding certain portions of our white population. Ignorance and poverty are everywhere associated with disease and vice. Filth and contagion, coupled with ignorance and indifference, always bring about disease and death. The remedy of greatest importance is—*education*. But by the term "education" I hope I shall not be understood to mean the kind of learning the negro has been getting for the last fifty years. Millions of dollars have been spent, and thousands of teachers and others have devoted many years of earnest labor to the education of the negro, and as a result of it all we find the negro race as a whole in a worse condition than they were in slavery times. True a few negroes have accumulated property; a small number have become markedly intelligent; a few have become skillful laborers; but the great mass of common negroes are today densely ignorant and poverty-stricken. Most of them are unskilled laborers, working for small pay; not a few are vagrants; some are in our almshouses; a very large per cent of them are diseased; and quite a large number of them are in our jails and chain gangs. These facts cannot be denied. I contend, therefore, that the kind of education we have been trying to give the negro has been a disappointment.

Every negro child has had what we may term a preliminary education. This preliminary education was begun several hundred years before he was born. His education can be continued and finished successfully now only if it is conducted in accordance with his preliminary preparation. Human beings show a great many grades of intelligence, and a great diversity of talents. Some are so defective in intelligence that they have to be cared for like infants. Now I contend that in the education of any child, of any race or color, it should be taught according to its capacity and grade of intelligence, and its probable opportunities in life. What the negro needs is an education that will take the place of the discipline which he received in slavery times, and that will fit him for some useful employment that is open to him. The negro will remain poor until he becomes sufficiently skilled to earn better wages than he now gets. But no matter how much he *earns*, he will still remain poor until he acquires habits of economy, and quits spending his money for liquor, and on loose women, and quits squandering it in gambling, and in other ways that hurt him instead of help him.

The negro should be taught to work, and trained to keep regularly at it. He should be made to understand the value of time. He should be taught thrift. Proper ideas of cleanliness, sobriety, chastity, honor, and self-reliance should be instilled into his mind. These things are indispensable to his welfare. Some of the wisest negroes are beginning to see the wisdom of giving the negro an industrial education instead of teaching him Latin and Greek.

The physician should be consulted, and his expert knowledge made use of, in the education of the negro race. What is the object of an education? Evidently, it is to fit the child for the duties of life; to train and develop its physical, moral and mental potentialities so that it will be able, in the "struggle for existence," to fight its own battles, and to prosecute successfully whatever calling or business it may undertake for its life work. To succeed in life it is as necessary that a person be efficient physically as it is that his mind be developed. Good character, good habits, and skill in working with the hands are more valuable

than a knowledge of the elementary branches of an English education. And an education that does not teach cleanliness and the proper care of the body is a defective education.

A large per cent of the negro schoolhouses are dirty and insanitary. They are not ventilated, especially during the winter time. The privies are unspeakably filthy, and infested in summer with swarms of flies. At some schools there are no privies, and the children have to go to the woods, which means the spread of intestinal parasites transmitted through the soil. Children with physical defects, in both the white and the black races, are being neglected because their parents are not sufficiently intelligent to have them given proper medical attention. If a child with any of the more serious diseases or defects, such as hookworm or adenoids, is allowed to grow up and reach maturity with such troubles unremedied, such a child will be seriously handicapped for life. Having had his development retarded during his formative period of life, he finds himself at maturity weak in body and mind, and burdened with disease, and unable to cope with strong men in any calling or pursuit. Hence our educational methods should be changed. The development of a sound body should be the first object of an education. It is a regrettable fact—an exceedingly regrettable fact—that very much of the physical and mental inefficiency seen on every hand today among adult men and women could have been prevented by intelligent care during childhood. The remedy for these evils is the medical inspection of schools. This should not longer be put off. Sound principles of economy alone justify it. Every sentiment of humanity and patriotism demands it.

I am convinced that we cannot depend upon the negro churches for much help in bettering the condition of the negro race. The churches are in a rut and, cannot get out. In them there is too much sentiment, and not enough sense; too much praise, and not enough piety; too much glory-hallelujah and, too little sound morality.

A colored lady of intelligence says: "Our preachers are not what they ought to be; they go in too much for money, and not enough for the happiness and welfare of their people. They would do more good if they would stop preaching so much about heaven, and teach the people how to *live right*, in neat clean homes—homes that are clean physically, mentally and morally. More stress should be placed upon the word *live*."

A good friend of mine, a physician, says: "You might as well try to teach sanitation to mules as to try to teach it to the negroes." With this opinion I do not fully agree. I admit the task is a hard one. Progress will be necessarily slow. But the negro is not incapable of learning. It is our methods that are at fault. In some of the schools in our county, thanks to Frances Kinney, they have individual drinking cups, and nice lunch baskets made with their own hands. In this respect they are more advanced than some of our white schools. The trouble with the negro is not so much his inability to learn as it is his carelessness and indifference in doing that which he is taught to do.

Clubs of various kinds have been organized among the negroes of my state (and I suppose in other states), and from what I learn some of these clubs are doing valuable work, more valuable in character than that which their churches are doing. Parents meet with the children in these clubs, and all are anxious to learn. This work, however, is quite limited at present. I am told that mothers who have been instructed in these clubs are trying to keep their homes cleaner and more sanitary.

It occurs to me that these clubs give us a clue to a solution of the negro health problem. Improvement clubs, formed somewhat after the manner of the boys' corn clubs, and the girls' canning clubs, organized at every schoolhouse in the land, would offer a sane and practicable method of solving the problem, or at least greatly improving the present conditions. On account of the

negro's gregarious proclivities it should not be difficult to secure a large attendance at these club meetings. Capable teachers, physicians, and social workers should be induced to help in this work. These clubs should be a kind of school for all ages. In addition to improved methods of farming, stock raising, poultry raising, etc., hygiene and sanitation should be taught at these meetings. Prizes might be offered for various things, as for the woman who has the cleanest house and yard. By teaching these people a few simple facts an inestimable amount of good might be accomplished. The women should be instructed in cooking, and the care of infants. The manner in which tuberculosis spreads from the sick to the well, and the approved methods of preventing the same, should be explained. They should be made to know that typhoid fever is an infectious disease, and instructed in methods of disinfection and cleanliness, and informed of the benefits of typhoid vaccination. They should be told how the mosquito spreads malaria, and instructed in methods of prevention. They should be told of sanitary privies, and that houseflies are as dangerous as mad dogs. They should be especially instructed concerning the two twin enemies of the negro race—gonorrhea and syphilis. Many other things will naturally suggest themselves to you. Let them understand that disease, for the most part, is under man's control. Divest their minds of the vague superstitions which most of them harbor concerning the causation of disease, and make them understand that disease is caused from uncleanness, alcohol, germs, bad habits and bad morals. The negro should be inspired to think more of himself, and to place a higher value upon his life. Call their attention to the remarkable old age which many of their ancestors reached, but to which few of the present generation can hope to attain. They should be taught the great value of sleep, which they do not seem to appreciate.

In conclusion, the health of any people is the foundation upon which their happiness and prosperity and usefulness rests. If the individuals of any race yearly diminish in stature and physical strength, that race is doomed.

The negro race in America is deteriorating, and at a rapid rate. The death-rate among them from filth diseases is alarming. The race is headed toward destruction. Unless something is done to arrest the spread of disease among them the race will go as the American Indian went within a few generations.

The educational and religious efforts that for fifty years have been employed to better the conditions of the negro race have been disappointing. Our educational methods should be changed radically.

Every influence that helps to increase the negro's efficiency, everything that encourages him to become productive and self-sustaining, and that helps to make of him a better citizen lessens the "white man's burden."

The fundamental source of disease, as well as of vice and crime, among the negroes is shiftlessness, ignorance, and poverty. The remedy is a systematic, *disciplinary* training of his physical, mental and moral powers.

REPORT OF STATE BACTERIOLOGIST

The following table summarizes the work of the laboratory for the first quarter of 1915.

	Tuberculosis (sputum)...	Typhoid (Widall)....	Diphtheria...	Water	Gonococci in- fection.....	Malaria.....	Rabies.....	Tuberculosis (not sputum)	Miscellaneous.	Totals
January	208	66	76	37	2	8	0	3	14	
February	224	65	22	45	9	4	1	1	16	
March	276	56	39	27	8	4	0	5	22	
Totals	708	187	137	109	19	16	1	9	52	
Grand total										1238

Tuberculosis "sputum," per cent positive	23.3
Typhoid, per cent positive	28.3
Diphtheria, per cent positive	27.8

Preparation of Specimens for Sending to the Laboratory.

Sputum.—These specimens to receive examination must be received in containers furnished from the State Board of Health for that purpose. The sputum outfits may be obtained by addressing the State Bacteriologist, Jefferson City, Missouri.

Blood.—It is impossible to examine a single specimen of blood for both typhoid and malaria. For the Widall test for typhoid the blood is best obtained by pricking the lobe of the ear with a flat or a three-cornered needle, or the point of a knife. The ear should first be rubbed with cotton and alcohol, then dried, and the needle should be sterile. Two or three good-sized drops should be collected on filter paper provided by the laboratory for this purpose.

For malaria the blood is obtained in the same way, but must be spread in a thin, even smear on a glass microscope slide. This is done as follows: A small drop of blood is received onto the slide near one end by touching the slide to the blood as it hangs from the lobe of the ear. The slide is then laid on a firm flat surface, and the end of a second slide, held at an angle of about

thirty degrees with the first slide and touching it, is brought into contact with the drop of blood. In two or three seconds the blood will have run across the slide at the point of contact. Then the second slide is pushed along on the first with a moderate speed, so as to leave a thin even smear on the surface of the first slide. A second smear may be made in a similar manner on the other slide. Caution: Have slides perfectly clean, handle only by the edges and work rapidly. Allow them to dry in the air without heat.

Blood should never be placed between slides and sent to the laboratory.

Swabs for Diphtheria.—The regulation tube and mailing case, to be obtained from the county health officer or from the State Bacteriologist, should be used for this purpose. Full directions accompany each outfit.

Water.—Specimens of water are examined for their potability, chiefly determined by the absence or presence of clon bacilli, an index to sewage pollution.

For a total bacterial count it is imperative that all samples be iced from the time of taking until they reach the laboratory. For this purpose special containers may be obtained from the laboratory, express charges to be paid both ways by sender of specimens.

Pus.—Pus, to be examined for gonococci should be sent on a slide prepared as follows: A small amount—much less than a drop—should be mixed on the slide with a small drop of water and thinly spread over an area a half inch or more in diameter, and allowed to dry. Do not press slides together.

Rabies.—Unless the animal shows symptoms of rabies, it should not be killed, but should be held for observation, in which event, if positive, death will ensue in a very few days, in ample time to begin treatment of the patient. Do not kill the animal by a blow or shot in the head as this may make a proper examination impossible. The head only or the animal should be sent, and that at the earliest possible moment. The head is to be placed in a tin bucket with a tightly fitting cover, which bucket is to be placed in a larger wooden or iron bucket and surrounded by sawdust and iced. The heads of animals freshly killed may be sprinkled with salt, packed in wet sawdust in a strong wooden box and expressed.

Urine.—Specimens of urine are examined for tubercle bacilli in suspected cases of genito-urinary tuberculosis.

In sending urine to be examined for tubercle bacilli, the following points should be carefully noted:

1. The specimen should be obtained by catheter, and drawn directly into a sterile bottle.
2. It should be stated upon the card accompanying the specimen that it was obtained by catheter.
3. Two or four ounces of urine should be sent and a preservative should be used.

Feces.—Feces will be examined for tubercle bacilli, and for the ova of intestinal parasites (hookworm.)

There is kept on hand a supply of typhoid vaccine for immunization which is supplied to physicians upon request. When writing for the vaccine, kindly state the number of patients to be immunized, and enclose ten cents in stamps to cover postage.

The anti-rabic treatment as prepared by the United States Government Laboratories will be administered free of charge to indigent persons of the state, at the laboratory only. The treatment requires twenty-one days and should be begun within fourteen days from the time patient was bitten.

VITAL STATISTICS

Summary Showing Comparison of Important Causes of Deaths and Registration of Births During January, February and March, 1915.

Statistics compiled for the first quarter of 1915, January, February and March, show there was a total 11,086 deaths. Of this number 6,074 were males, 5,012 females, 10,159 whites, 927 blacks.

The month of March showed the greatest number of deaths 4,015, and February the lowest 3,534. For the same quarter in 1914, there were 12,200 deaths, or 1,114 more than in 1915. This is a noticeable improvement in the health conditions of the State compared with one year ago.

Pneumonia heads the list of causes of death for the quarter with 2,047, tuberculosis next with 1,289, diseases of the heart and circulatory system 1,203, other diseases of the nervous system 941, acute nephritis and Bright's disease 888, cancer 488, respiratory system 392, accidents 291, influenza, 197, suicides, 175 diphtheria and croup 158, diarrhoea and enteritis (under 2 yrs.) 142, puerperal state 107, diabetes 102, homicides 81, typhoid fever 80, scarlet fever 27, whooping cough 22, acute poliomyelitis 17, epidemic cerebro spinal meningitis 13, smallpox 5, measles 3, and other causes 2,418.

There were 17,622 births reported as having occurred during January, February and March, of which 9,030 were males, 8,592 were females, 17,081 whites, and 541 blacks.

It will be noted from the foregoing that there were 6,536 more births than deaths during the quarter.

C. J. KAISER,
Chief Statistician.

**Table Showing Deaths from Twenty-four Important Causes
During January, February and March, 1915. (Still-
births Excluded.) Filed with the Central
Bureau of Vital Statistics.**

Cause	January	February	March	Totals
Typhoid Fever.....	30	30	20	80
Smallpox.....	....	2	3	5
Measles.....	....	....	3	3
Scarlet Fever.....	19	5	3	27
Whooping Cough.....	8	6	8	22
Diphtheria and Croup.....	73	41	44	158
Influenza.....	51	51	95	197
Tuberculosis of Lungs.....	346	371	474	1191
Other forms of Tuberculosis.....	25	34	39	98
Cancer.....	163	171	154	488
Diabetes.....	30	26	46	102
Epidemic Cerebro Spinal Meningitis.....	3	7	3	13
Acute Anterior Poliomyelitis.....	5	2	12	17
Other Diseases of the Nervous System.....	278	296	367	941
Diseases of Heart and Circulatory System.....	416	364	423	1203
Pneumonia and Broncho-pneumonia.....	628	678	741	2047
Other Diseases of Respiratory System.....	138	136	118	392
Diarrhoea and Enteritis (under 2 years of age) ..	41	41	60	142
Acute Nephritis and Bright's Disease.....	289	283	316	888
The Puerperal State.....	40	35	32	107
Accidents.....	116	87	88	291
Suicides.....	64	45	66	175
Homicides.....	31	23	27	81
Other Causes.....	743	802	873	2418
Total.....	3,537	3,534	4,015	11,086

**Table Showing Births Filed with the Central Bureau of Vital
Statistics During Months of January, February,
March, 1915, by Sex and Color (Still-
births Excluded).**

Month	Total	Male		Female	
		White	Black	White	Black
January.....	6,073	3,032	95	2,860	86
February.....	5,685	2,867	91	2,641	86
March.....	5,864	2,861	84	2,820	99
Totals.....	17,622	8,760	270	8,321	271
Total by Sex.....		9,030		8,592	

Births and Deaths Reported in Missouri (Stillbirths not Included) During the Quarter Ending March 31, 1915.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Adair—	22,700																											
January.....		38	14													2		3										2
February.....		35	22													1		5		1		2						6
March.....		48	18							1	1	1				1		2										10
Totals.....	15,282	121	54																									
Andrew—																												
January.....		24	9							1	1	1									1							4
February.....		20	17								1					1	1	3		3	1	1						6
March.....		17	12									2				2		1			1							3
Totals.....		61	38																									
Atchison—	13,604																											
January.....		24	4					1										1			1							1
February.....		14	4															1		1	1							
March.....		12	8															1										3
Totals.....		50	16																									
Audrain—	21,687																											
January.....		21	23								1					3		4		2		3						4
February.....		13	11									1				2		2										
March.....		30	22								1	4				5		3		1								5
Totals.....		64	56																									

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1915—Continued.**

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhœa and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Barry—	23,869																											
January.....		63	17	1			1		1		1	1					2	2	1							1	5	
February.....		36	8								1		1				1	1	2								2	
March.....		24	30						1	2	1						5	1	1	1	1					1	12	
Totals.....		123	55																									
Barton—	16,747																											
January.....		24	10	1							1						1	2	2			1				1	1	
February.....		23	15						1			1					3	1	4			1					4	
March.....		25	18										2				4	2	3	1	1							
Totals.....		72	43																									
Bates—	25,869																											
January.....		56	29							2	1			1			5	5	5	1	1	3					5	
February.....		39	42								3	1	3				2	4	7	4	3			6			2	
March.....		39	31							2							4	4	2	1	1	7		1			9	
Totals.....		134	102																									
Benton—	14,881																											
January.....		17	12							1				1			3	2		2							2	
February.....		21	17	1													1		3		2			1			5	
March.....		21	10									1	1					1	1		2						3	
Totals.....		59	39																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1915—Continued.

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, B r o n c h o- pneumonia.....	Other diseases of respira- tory system.....	Diarrhea and Enteritis (under 2 years of age) .	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Cole—	10,107																											
January.....		15	8																									1
February.....		16	2																									2
March.....		9	5						1		3		4		1		1	1	3	1		1						
Totals.....		40	23																									
Jefferson City—	11,050																											
January.....		12	17	1							5	1							4	1								4
February.....		18	15						1		3							2	2		1							4
March.....		11	13								5			1		1	1	3	3		1							1
Totals.....		41	45																									
Cooper—	20,311																											
January.....		43	25							1	3	1		1			2	2	5	1		3						6
February.....		27	21							2	4						1		7		1							3
March.....		36	30								1	1	2	1		4		9	1									6
Totals.....		106	76																									
Crawford—	13,576																											
January.....		20	13								1				1			1	3	1								3
February.....		21	7										1				1	4			1							
March.....		27	11								2					2		4	4									2
Totals.....		68	31																									

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1915—Continued.**

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																									
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Broncho- pneumonia.....	Other diseases of respira- tory system.....	Diarrhoea and Enteritis (under 2 years of age) .	Bright's Disease.....	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Franklin—	29,830																												
January.....		57	31								2		1				1	5	5	3			2	1	3				8
February.....		60	28								5		2				3	4	4	1			1	1	1				6
March.....		52	32								1	1	1			6	3	6	2	1	5				1				4
Totals.....		169	91																										
Gasconade—	12,847																												
January.....		22	13												1		1	3		1									3
February.....		23	19					1		2	2		2	1			2	3	4			1	1						1
March.....		23	18						2		1						2	1	4	2			2					1	3
Totals.....		68	50																										
Gentry—	16,820																												
January.....		34	12								1	1		1			2	1	2			2							2
February.....		29	17								3		3				1	2	1				1						5
March.....		30	18					1	1			1					1	4	3				1					1	5
Totals.....		93	47																										
Greene—	28,630																												
January.....		73	16							1	1	2				1	2		3	3		1							4
February.....		45	17								1		1					3	1		1		1						7
March.....		37	32				1		1	2	5		2				1	4	9	1			1						5
Totals.....		155	65																										

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1915—Continued.**

Counties.	Population, 1910.	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																							
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....
Howell—	21,065									2	1	1					3	2	5		2	1				1	7
January.....		30	25	1							1	1					1	2	3							1	11
February.....		50	20									1					1	1	2		1						5
March.....		45	15	1							1	1					1	1	3		1						
Totals.....		125	60																								
Iron—	8,563																										
January.....		22	13								3						1	1	3	1		1					3
February.....		18	13								3						2	1	3								2
March.....		21	14	1					2	1	1	1							3								5
Totals.....		61	40																								
Jackson—	35,141																										
January.....		48	37						1	1	6		2				2	6	6	1		5		1	1		5
February.....		65	37							1	3		1				9	4	8				1				10
March.....		53	39								4	1	3				6	2	9		5		2				7
Totals.....		166	113																								
Kansas City—	248,381																										
January.....		441	370	2				2	7	3	26	1	20	4		1	23	47	59	18	10	36	7	21	9	10	64
February.....		411	359	3					6	5	46	3	14		2		30	44	69	8	6	37	4	7	5	6	64
March.....		418	415	1				1	4	6	44	4	22	3	1	1	37	61	72	13	7	24	2	10	4	8	90
Totals.....		1,270	1,144																								

[illegible]

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1915—Continued.**

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronch o- pneumonia.....	Other diseases of respira- tory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Lafayette—	30,154																											
January.....		48	32						1		3	2				3	10	2	1	1	1							4
February.....		62	25							3	1	1				2	1	4	4	2								6
March.....		66	33						1		1	1				1	3	3	2	2								13
Totals.....		176	90																									
Lawrence—	26,583																											
January.....		58	25						1	1	1	2					2	12	2	2								4
February.....		60	21	1							4					2	2	2	1	1	1							3
March.....		54	38						1	2	6	1				7	4	3	3		3	1						7
Totals.....		172	84																									
Lewis—	15,514																											
January.....		15	6													1	2											3
February.....		25	13								1					4	2	2										4
March.....		14	8													1	1	2	2						1			3
Totals.....		54	27																									
Lincoln—	17,033																											
January.....		38	20							1	1		1				5	4										5
February.....		17	8														1	1	1									3
March.....		28	21							1	4		1			2	2	3	1	2								7
Totals.....		83	49																									

42

MODY5C

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1915—Continued.**

Counties.	Population, 1910.....	Total b irths during the quarter.....	Total d eaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup...	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, B r o n c h o- pneumonia.....	Other diseases of respira- tory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Pulaski—	11,438																											
January.....		20	12							3		1						1	1		3	1						1
February.....		31	17							2								2										2
March.....		23	10							1									2		1							4
Totals.....		74	39																									
Putnam—	14,308																											
January.....		19	8							1								3										3
February.....		22	10							2										1	2							3
March.....		26	9								1							5										1
Totals.....		67	27																									
Ralls—	12,913																											
January.....		18	5							1																		3
February.....		14	6								1																	3
March.....		11	7							1								1	1		1							1
Totals.....		43	18																									
Randolph—	15,259																											
January.....		23	20							3							3	4	2	1		1						5
February.....		28	11									1						4	4									
March.....		29	17							1		1					2	4	4			1						4
Totals.....		80	58																									

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
MARCH 31, 1915—Continued.**

Counties.	Population, 1910.	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																									
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).....	Bright's Disease.....	Acute Nephritis.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Ste. Genevieve—	10,607																												
January.....		14	7							1						1			2										2
February.....		21	7													1		1	2										2
March.....		11	12														1	4		1									2
Totals.....		46	26																										
St. Louis—	82,417																												
January.....		182	134				7		1	1	51	2	2	1			11	14	19	5			5			3	3	1	8
February.....		124	119						1		45	1	5				2	13	22	5			2						17
March.....		135	127						1	1	61	1	1	1			4	7	10	6	2		12			2			15
Totals.....		441	380																										
Saline—	29,448																												
January.....		50	26						2										3	5			3			1			10
February.....		31	32		1						3		2	1			3	2	3	2			3						12
March.....		69	41							1	3		1			7	3	3	9	3	1					1	2		10
Totals.....		150	99																										
Schuyler—	9,062																												
January.....		22	12				1		1	2			1						2										5
February.....		18	5																										2
March.....		11	16							3	3		2				2		1										3
Totals.....		51	33																										

Important causes of death.

MISSOURI STATE BOARD OF HEALTH



QUARTERLY BULLETIN

NEW SERIES

VOL. 5.

APRIL-JUNE, 1915.

NO. 2.

MEMBERS OF THE BOARD

F. H. Matthews, M. D., Pres.....	Liberty	T. A. Son.....	Bonne Terre
G. O. Cuppaidge, M. D., Vice-Pres...	Moberly	R. L. Wills, M. D.....	Neosho
J. A. B. Adcock, M. D., Sec'y...	Jefferson City	M. R. Hughes.....	Met. Bldg., St. Louis
T. H. Wilcoxon, M. D., Bowling Green.			

Dr. George H. Jones, State Bacteriologist, Jefferson City.
C. J. Kaiser, Statistician, Jefferson City.

CONTENTS

Some Needed Medical Legislation.....	3-7	Care of the Baby in Summer.....	14-16
Importance of Vital Statistics.....	8	Good Teeth Essential to Good Health.....	16-17
Extracts from the Minutes of the Board.....	9-12	Report of State Bacteriologist.....	18-20
Board Meeting.....	12	Vital Statistics.....	21-45
Harvest Disease, or a Chigger.....	12-14		



BULLETIN OF THE

Missouri State Board of Health

NEW SERIES

VOL. 5.

APRIL-JUNE, 1915.

NO. 2.

Some Needed Medical Legislation.

By F. H. Matthews, M. D., Liberty, Mo.

Until very recently the motive of the medical profession in asking for the enactment of laws affecting public health or guarding the licensing of physicians was wholly misunderstood. The most effective argument against any proposed legislation relating to medicine was to let it be known that "the doctors favored it;" and while there is yet opposition from the ignorant and prejudiced to much that the profession demands, organized medicine is slowly and surely being recognized, not only as a political force to be reckoned with by candidates for public office, but, step by step, the masses are awakening to the fact that, in spite of the commercialism of the age, the medical profession is laboring with might and main, both publicly and privately, to reduce to its minimum extent the very thing from which it derives its revenue. "It is an undisputed fact, and one of which we may well be proud, that all of the great reforms and advances in medical practice and in medical education have emanated from the grand body of medical practitioners, and that they have been inspired thereto by an altruistic desire to improve conditions for the people whom they serve, and not for selfish ends." This has given the profession not only much power in politics, but also the dignity which rightly belongs to it. At no time in the history of medicine have the requests of the medical profession been received with so much cordiality and intelligent acclaim as now.

The proper laws governing the licensing by the state of practitioners of medicine have, perhaps, met with more violent opposition than any other measures advocated by physicians.

The laws now in force are, in many respects, defective and inadequate to protect the public from the ignorant and incompetent. It is contended that the State Examining Board should be able to determine who is and who is not competent to practice medicine; and, in a measure, this is true. Certainly, the record of the rejection of about twenty per cent of those who take its examinations proves the value of its work and the necessity for its existence, but the fact that so large a percentage of those whom it examines as to their fitness fail to pass its very reasonable requirements also proves that a great many men are graduated from medical colleges who should not be. It is not my contention, at this time, that the curriculum is inadequate or defective, but that there is too large a number of students in our medical colleges who have not had the preliminary mental training to enable them to grasp and comprehend the subjects which they are required to study and about which they must have a considerable knowledge before they may become safe and competent practitioners. It is a fact well known to those who have served as members of our State Examining Board that many graduates in medicine present themselves for examination who plainly show their ignorance of even the elementary branches of a common school education. It is certainly true that the greatest deficiencies in the qualifications of the candidates appearing before our examining boards seem to be in the preliminary educational requirements. I do not contend that no one except he who has had an academic or collegiate education can make of himself a safe and successful practitioner of medicine—there have been too many illustrious exceptions—but surely the present-day demands on medical men require that they possess a mental perception and a capacity for analytic thought which can seldom be had without a considerable preliminary school training. The higher class of medical colleges recognize this and now, or soon, will require an attendance of at least two years at some recognized college of liberal arts before matriculation. The minimum requirement should certainly be not less than a good primary and secondary education, with a sufficient knowledge of physics, chemistry and biology to enable the matriculant intelligently to begin his medical studies.

It has been said that we are suffering from both too rigid and too lax requirement. Some schools require an A. B. degree from a recognized college or university, which means that a

medical student will be twenty-eight or twenty-nine years of age before he graduates in medicine, and that is altogether too advanced an age at which the average student should complete his medical studies. Other schools, whose loose methods of evaluating entrance credentials, with an evident willingness to enroll anyone who can pay his entrance fees, anything in the way of credentials being accepted, and require no clear-cut minimum standard.

"A medical school is a human factory turning out doctors as the finished product after four years of careful preparation and fitting of the mental machinery," and a law which permits a school to enroll as a student a young man with insufficient mind-training to digest, intelligently, the extraordinarily complex diet of the modern medical curriculum, is as defective as would be the practice of using pot metal in the manufacture of watch springs. In this state the minimum requirements are specified by statute, and the examining board must accept them. It is to this portion of our state law that I call your attention and earnestly request that you use every endeavor to have it corrected at the next session of the State Legislature. The section reads

"All persons desiring to practice medicine or surgery shall furnish to the State Board of Health satisfactory evidence of their preliminary qualifications, to wit: a certificate of graduation from an accredited high school, or state normal, college, university or academy, or a certificate from *a county school commissioner*, certifying that they have satisfactorily passed an examination equivalent to a grade from an accredited high school, normal, college or university." * * * (Revised Statutes, Missouri, 1909, section 8313.)

The latter clause of this statute emasculates the entire section, for I have yet to hear of a young man who has failed to secure the necessary certificate of a satisfactory examination in physics, chemistry, biology, ancient, mediaeval and modern history, English, Latin, German, trigonometry, etc., from a county school commissioner, although he may have failed to pass his former examinations at the close of a district school course comprising seven or eight years, of terms from four to six months each, and in which the three "R's" made up the curriculum. It is worthy of note that approximately seventy per cent of those who fail to pass the state board examination have had, as their entrance credentials, county school commissioner's certificates. By permitting these students to graduate

in medicine not only is done them the great injustice of consuming four of the most valuable years of their lives which might profitably have been spent in other occupations, but also makes possible the maintenance of commercial medical schools which exist wholly on the tuition fees paid by these unfortunate and misguided young men—schools in which there is absolute disregard for the public welfare and no serious thought for the interests of the students. I have every respect for the ambitious poor boy, but he has no right to go into any profession for which he is not willing to obtain adequate preparation. His responsibilities are going to be as heavy as those of his better trained fellow-practitioners, and there is no reason, in this age of free high schools, why he should not, at least, be a high school graduate. The advocates of an easy admission, on the ground of that well-known, threadbare, overworked, “poor boy” plea, are these very commercial college officials who are anxious to declare dividends out of the little money the poor boy may have, without regard for his future happiness or his professional success. No worthy poor young man lives in this state who would not spurn such concessions if he had accurate information concerning the advantages to be secured by a proper preliminary training and which is so abundantly provided for through the system of accredited high schools and generous college provisions in Missouri.

The argument made by some well-intentioned but badly informed men that raising the entrance requirements will deprive some localities of the requisite number of physicians; that the young man who is thoroughly equipped for his life work by arduous pre-medical and medical education will not care to locate in a sparsely settled and comparatively poor community; that whatever makes medical education more difficult and more costly will deplete the profession and thus deprive large numbers of any medical attention whatsoever has no foundation in fact. I have never yet heard of a community in this state with an insufficient number of medical men; the cry from every graduating class is: “The profession is overcrowded; where can I find an opening?” In Germany, with much higher educational requirements than in America, there is one physician to every two thousand of population; in the United States, one to every five hundred sixty-eight. Examination of the census records for the years 1880, 1890, 1900 and 1910 shows that between the first date and the last the increase in the number of physicians

kept step quite closely with the growth of population; the average ratio was one to a few less than six hundred, and during this period revolutionary changes took place in medical education, with doubling of the curriculum and consequent doubling of expense. Clearly, low standards and poor training are not needed to make available to every hamlet, crossroads, town or rural community an ample supply of physicians.

My plea is for high ideals and sound educational procedure among medical men; not for more rigid pre-medical or medical requirements for the purpose of reducing the surplusage in the profession, although that point might be well taken and successfully argued, for it is indeed desirable. The overcrowding and its evil effects, both to the general public and to the profession, are apparent to every thinking man. My plea is for a profession that will maintain the ability and character required by the interests of the public.

Medicine is an expert calling for the practice of which it must be assumed that one should possess a high order of education as well as special training; and this expert calling imposes upon the physician a certain quasi-public relation. The right to practice medicine is not a vested right, but is a privilege granted by organized society, and no man has the right to invoke the plea of individual freedom nor to insist that the state shall not prescribe his qualifications for entry into the profession.

How much education it requires to establish a reasonable presumption of fitness to undertake the study of medicine is a much discussed question and is not yet settled, but an adequate grounding in the technical subjects which underlie the profession is admittedly necessary. Certainly, the great State of Missouri should not require less than a preliminary high school education of those who seek the honor and expect the emoluments, however small, of this, the most exacting and responsible of the professions; and, in many cases, a county school commissioner's certificate has been shown to be about four years less than that.

In the name of humanity and a respected and self-respecting profession, let us, as conscientious physicians, who only are competent judges of what should be required of a man who professes to treat the sick, urge our lawmakers to change our statute so as to prohibit our State Board of Health from examining those whose entrance credentials are below the level of an actual accredited high school diploma.

Importance of Vital Statistics.

I wish again to call the attention of the physicians throughout the state to the importance of filling out properly and sending to their Local Registrar each certificate of birth attended by them within ten days after date of birth. This is in compliance with the statutes of Missouri, and there is a fine attached to those who refuse or neglect to comply with this statute. This is justice to the child and to the state as it furnishes a permanent record of the child's birth, name, ancestors, etc., and its property right, right of suffrage and every inherited right, can be readily established through this bureau if doctors will do their duty in this respect by being prompt and sending in these certificates properly filled out.

For various purposes this office is sending out certified copies of birth and death certificates each year which amount to the sum of fifteen hundred. As time goes on these certified copies of the record of births and deaths, which are prima facie evidence of the facts contained therein in any of our courts, will grow more important and will become of more general use than is fully appreciated at this time.

The establishing of the legal age for voting, of consent and of legitimacy shows at once the great importance of properly keeping these records.

So in justice to the child and in justice to the person who is in need of securing life insurance or in making claims against an estate or in making claims for pensions; and also in justice to the state, it is very important that these certificates of births and deaths be properly filled out and sent to the Local Registrar promptly as the statutes indicate. I am asking you, then, as physicians who are really guardians of the health of the citizens of our state, to take a lively interest in this matter and do not wait for the Local Registrar to solicit you for these reports, as it becomes embarrassing for him to do so and makes his office an undesirable one to fill, as the remuneration is so small that it does not really pay him in dollars and cents to do this work. Yet the Local Registrars throughout the state are doing their work very well, but many of them are embarrassed by having to call upon physicians for reports of births which they have failed to send in to them for weeks and sometimes months after the birth of the child.

From Minutes of Last Meeting.

The Board of Health met at the office of the Secretary at Jefferson City, Mo., at 9 a. m. on July 19, 1915, and was called to order by the President, Dr. Matthews. All the members were present.

Dr. Matthews made verbal report of a nuisance near Lathrop, Mo., which is maintained by the British Government. It consists of dead horses in great numbers that died at Lathrop and were buried in a very careless manner, creating a great deal of comment and disturbance. A written report by the doctor will be found incorporated in these minutes.

The Secretary read a letter from Dr. Kieffer setting forth some of the reasons why the College of Physicians and Surgeons and the National College of Arts and Sciences had not come to an agreement regarding the amalgamation of these two schools.

The Secretary read a letter from the Henry P. Long Mercantile Company of King City asking the Board of Health to come to that city and investigate a nuisance in the way of sewage which was running through Mr. Long's pasture. The Board instructed the Secretary to inform Mr. Long that this matter did not come within the jurisdiction of the Board, but that the statutes provide that such matters as this are to be settled by a process of law, that complaining parties must institute, by bringing suit against the city for maintaining a nuisance.

At this time the Board compiled and passed upon the grades of the applicants who took the examination at St. Louis, June 21st-24th. To all those who made an average of 75 and above the Secretary was instructed to issue licenses to practice medicine in the State of Missouri.

The following is a list of those who passed this examination:

Adkins, Albert Edward	Ballance, Rhodolphus Adam
Adkins, Eugene Monroe	Balsley, Clyde Martin
Allen, Charles Curtis	Barbazette, Leon Francis
Allison, James Monroe	Barken, Leo
Alsup, Frederick Franklin	Bates, Gerald Chapman
Anderson, Pearl Josephine	Beatty, Jess James
Asbury, Ernest Charles	Bechtold, Edmond
Ashley, Hugh Vincent	Bell, James Edward
Ayars, Frank Russell	Bess, James William

Birsner, Louis Joseph
 Blevins, Field
 Bock, Lux Hugo
 Bradford, Oscar Franklin
 Brannon, Lloyd Henry
 Bremer, Joseph Peter
 Bridges, William Cullen
 Brown, Clyde Olen
 Broyles, Glen Hunt
 Burke, William

 Carr, Earl Curtis
 Carson, Oliver Edward
 Colby, Buford Monroe
 Conard, John Wilkin
 Cooper, Lawrence Edgbert
 Cramb, Arthur Benjamin
 Creane, John Charles
 Cutler, Robert Roscoe

 David, John
 Davis, Samuel Severy
 Denton, Levi Dempsey
 Devereaux, Thomas Joseph
 Dial, Virgil Andrew
 Dixon, Elliott Knight

 Edwards, James Thomas
 Edwards, Franklin Thomas
 Eilerts, Walter John
 Elders, Frank Alvin
 Elkins, Harold Albert
 Ellis, Edward Kent

 Fallet, Chas. Earl
 Ferguson, James Taylor
 Fessenden, Ersel Mial
 Fischer, Wm. Otto
 Frank, Philip
 Freed, Frederick Clarence
 Fuson, Levi Harrison

 Gallaher, Edward Erwin
 Gregg, Engle Josephus
 Grove, Gulph Walden

Hall, Wm. Lee
 Ham, John Paul
 Haven, James Montford
 Hedgpeth, Geo. Washington
 Heibner, Eugene Albert
 Hempstid, Irl Edwin
 Hethcock, John Cleveland
 Holbrook, Walter Franz
 Hughes, R. M.

 James, Wm. Bonner
 Jones, Austin Byron
 Jones, Harold Houston
 Judy, John Abram

 Kaemmerling, Gerhard Geo.
 Kellersberger, Eugene Roland
 Kelly, Joseph Patrick
 King, Elbert Rife
 Klieforth, Frederick Henry
 Klein, Robert Gottfried
 Knowles, Roy Frank
 Koessel, Arthur Wm.

 Langdrof, Herbert Sidney
 Leslie, Gilbert Alto
 Littler, Wm. Henry
 Looze, Anthony Joseph
 Lowder, Opal Hamilton

 McCarty, Eugene Daniel
 McCormick, Edward James
 McKay, James Clyde
 McRaven, Claude
 McRaven, Cyrus Pilgrim
 Madison, Waite Hunt
 Meads, Ezra Leslie
 Mathews, F. H.
 Meyers, Henry Albert
 Milligan, Roy Heape
 Minker, Max
 Moore, Isaac Edward
 Muench, Ludwig Orlando
 Munier, Eugene Bernhard

Neunlist, Percy Carl

Pawelek, Isadore Louis

Peden, Joseph Carroll

Pilliod, Frank Wm.

Poe, Chester Arthur

Potter, James Harry

Redington, James Crescent

Ricketts, Floyd Blythe

Roberts, Edwin Howerton

Robinson, Claude Pintard

Rose, Dalton Keats

Rosegren, Oliver

Ross, Pren James

Rossen, Julius Albert

Rosson, James Knox

Rothman, Joseph

Sathe, Marcus Roy

Sayre, Robert Wm.

Schaerrer, Hans

Schoenfeld, Otto Ernst

Scott, Allen Grey

Scurlock, Ira Leon

Schreffler, Algie Ray

Smirl, Ralph Jiles

Smith, Alma Ceshner

Smith, Thos. Manuel, Jr.

Smith, Wm. Rameses

Squibb, Harry Watson

Stepp, Ervin Prentiss

Stewart, John Walker

Stewart, Floyd

Strode, Joseph Emmerson

Scott, J. B.

Taylor, Eugene Tivoli

Taylor, John Vernon

Toomey, Thomas Noxon

Tripodi, Antonio

Tufts, Edward Anderson

Upshaw, Harry Thomas

Vineyard, Robert

Walker, Theodore Lee

Wall, M. C.

Warren, Halleck Burkett

Wennerman, Samuel Franklin

Whitehead, Robt. Homer

Wilkening, Wm. Theodore

Williamson, Howard Moore

Wright, Wm. Marion

The Board also approved the certificates issued to the following named doctors upon reciprocity:

Bechthold, F. W.

Butterfield, E. R.

Curran, E. J.

Fletcher, A. E.

Hams, B. F.

Hook, F. R.

Johnson, Nat. L.

Knoff, Geo.

Leach, J. L.

Platt, R. B.

Pope, N. K., Jr.

Walty, E. E.

Willets, J. Ed.

Eight midwives were examined. Seven passed and one failed.

At 1:30 p. m. the Board took up the case of Dr. J. Walter Carryer of Columbia, Mo. He was present and was represented by his attorney, Mr. Frank G. Harris, who stated that Dr.

Carryer's case had been appealed to the Supreme Court, and as the Board was solely depending upon the evidence of the trial before the circuit court at Columbia, Mo., it was decided to hold in abeyance the further trial of Dr. Carryer until the Supreme Court had reached a decision in his case.

The Board then discussed the measure for putting before the teachers of the public schools throughout the State of Missouri a plan whereby some organization of the schools might be affected to teach the pupils in an impressive way the importance of the knowledge of sanitation and preventive diseases. A committee consisting of Drs. Cuppaidge, Adcock, Matthews, and Mr. H. A. Gass, State Superintendent of Public Schools, who agreed to co-operate with the Board in promoting this enterprise.

Meeting of Board of Health.

The Board of Health will meet at the Muehlebach Hotel in Kansas City, Mo., on September 27th to transact some important business pertaining to the Board. On the 28th, 29th and 30th the regular examinations to practice medicine, surgery and midwifery will be held. The examinations will begin at 9 a. m. Midwives will not appear until 9 a. m. the morning of the 30th.

Harvest Disease Due.

UNITED STATES PUBLIC HEALTH SERVICE EXPLAINS ITS NATURE.

Although of brief duration, the harvest disease, as it is commonly known, is one of the most annoying and troublesome complaints of the summer season. It is of frequent occurrence, seldom recognized, and widely disseminated. The disease is generally ascribed to errors of diet, overexertion or poisoning, and but few of the afflicted are aware that the cause of their suffering is a minute six-legged insect.

The "jigger," "chigger," or harvest mite, which occasions this vexatious summer eruption, belongs to the mite family. This in itself is sufficient to cause some doubt in the minds of the enlightened, inasmuch as several other members of the family have gained fame through misbehavior. The itch mite is a notorious example. It has been with us since history began

and still afflicts the human race. The straw mite, only recently discovered, is also acquiring somewhat of a reputation.

The adult jigger is harmless. It apparently loves the freedom of the woods and open fields, attaching itself to leaves and grasses and utterly ignoring all human intruders. The young are hatched in July and August and appear from the eggs as minute orange-red larvae. For some inexplicable reason they show a considerable predilection for human society, willingly forsaking their natural habitat for the uncertainties of life with man. When lodged upon the skin they immediately select a favorable site and rapidly begin to penetrate the outer layers by burrowing. The trouble begins at this stage. The irritation, at first mild, becomes intense as the burrowing proceeds and is accompanied by redness, swelling and inflammation. Frequently the eruption resembles that of hives or even eczema and the itching is so severe that lesions due to violent scratching may ensue. The irritation may be confined to particular portions of the body or become widespread. Depending upon the number of larvae entrenching themselves, the suffering may be acute, preventing sleep and even leading to other disturbances, while at the best the degree of uncomfortableness is such as to demand remedial measures. Just why the larvae exhibit burrowing proclivities in this manner is unknown; their action is apparently without reason, as they invariably perish within a few days after commencing their nefarious attack. Their demise is most welcome to the sufferer. As with other parasitic diseases, the susceptibility of individuals varies considerably, some persons not suffering even when thoroughly exposed.

Early treatment of jigger rash, or trombidiosis, as it is known, is essential. If the condition is recognized at its onset the sufferer can almost invariably point with exactness to the burrowing sites, and frequently the disappearing extremities of the intruders may be observed. A needle, sterilized by boiling, may be used to pluck the invaders from their dermal intrenchments, and even if the search proves unsuccessful the counter-irritation produced by the instrument is pleasurable and affords great enjoyment to the afflicted. If the swelling or oedema of the skin is considerable, or if the lesions are not recent, search will prove futile as the larvae are already safely buried. One can then only hope for an early termination of their activities, this usually requiring from five to seven days. Several extremely useful preparations are prescribed by physicians, not only to

kill the mites, but to reduce the irritation and relieve the itching. Bathing directly after exposure is advisable in order to drown the parasites. The best treatment is, however, the avoidance of the haunts of the tormentors.

Care of the Baby in Summer.

DESTROY THE FLY.

When the modern mother sings "Baby-bye, here's a fly" to her infant, she changes the second line of the old nursery song to read "Let us *swat* him, you and I." The common house fly is no longer an object of tolerant interest, but has become an object of hatred and distrust. He is known to be the principal factor in the distribution of the germs of typhoid.

Especially is he regarded as the enemy of the baby, as there is reason to believe that he carries about the germs of summer diarrhea and leaves them behind him, with other filth, when he lights on the nipple of the feeding bottle, or crawls over the saucer of cereal, or falls in the milk. Thus he is a real danger not only to the baby but to the whole family, and every effort should be made to do away with him.

Flies may be kept out of the house to a considerable extent by using screens at the doors and windows, and those that get inside may be trapped, poisoned or swatted. But better than any of these methods is to destroy the flies in the larval stage and thus prevent them from hatching. The following information is furnished by the Department of Agriculture:

"A safe and effective weapon against the typhoid or house fly has been found in powdered hellebore by scientists of the Department of Agriculture. Flies lay their eggs chiefly in stable manure. Powdered hellebore, mixed with water and sprinkled over the manure, will destroy the larvae which are hatched from the eggs. Since powdered hellebore is readily obtainable, this puts in the hands of every one a remedy for one of the pests that has been found dangerous as well as troublesome. Powdered hellebore, however, will not kill adult flies, which must be swatted or trapped.

"It has long been known that flies breed in manure, but previous methods of destroying the larvae there by the use of strong chemicals have been open to the objection that the treatment under some conditions lessened the fertilizing value

of the manure or actually injured vegetation. This is not true of powdered hellebore. Government experiments have shown that the hellebore is entirely decomposed in the course of the fermentation of the manure and that even in excessive quantities it does no harm except to the larvae it is intended to destroy. Chickens picking in manure treated with it suffer no ill effects.

"One-half pound of powdered hellebore mixed with 10 gallons of water is sufficient to kill the larvae in 8 bushels, or 10 cubic feet, of manure. The mixture should be sprinkled carefully over the pile, especial attention being paid to the outer edges. In most places hellebore is obtainable in 100-pound lots at a cost of 11 cents a pound. This makes the cost of the treatment a little less than seven-tenths of a cent per bushel of manure. A liberal estimate of the output of manure is two bushels a day per horse. The money involved is therefore trifling in comparison with the benefits to the individual and the community from the practical elimination of the disease-spreading fly.

"Although fresh manure is the favorite breeding spot, flies lay their eggs in other places as well, such as outhouses, refuse piles, etc. In these places, from which no manure is taken to spread on the fields, considerable saving may be effected through the substitution of borax for powdered hellebore. Applied at the rate of 0.62 pounds per 8 bushels of manure, borax is as effective as powdered hellebore in killing the larvae, but costs less than half a cent for each bushel of manure treated. In larger quantities, however, or when the manure itself is spread at a greater rate than 15 tons to the acre, some damage to crops may result. Large quantities of manure are often used by market gardeners and others, and there is always danger of carelessness in applying the borax. The use of the more expensive but safer hellebore is therefore recommended for the treatment of manure. Borax is recommended for all other refuse in which flies may lay eggs.

"Scientists who have been working for years to eliminate the fly are convinced that the use of one or the other of these simple measures is a public duty wherever manure and refuse exist. Sanitarians, however, strongly advise the removal of refuse heaps or other unnecessary rubbish or breeding places for flies. In breeding places which cannot be thus disposed of—such as manure or stables—the daily use of powdered hellebore will keep the flies from breeding in these favorite breeding grounds.

The best results are obtainable in a community where every one cleans up his premises, traps or kills the flies and systematically treats the manure and other breeding places with powdered hellebore.

"The fly is not only a nuisance to human beings and live stock; it spreads disease and filth and is a menace to public health which cannot be tolerated in the face of a demonstrated remedy. Details of the experiments with other information on the subject are contained in a professional paper, Bulletin 245 of the United States Department of Agriculture."

Good Teeth Essential to Good Health.

RECENT MEDICAL DISCOVERIES PREVENT DENTAL LOSS.

According to the United States Public Health Service there will be a falling off in the selling of store teeth in the future, and plates and toothless gums will be seen less frequently than formerly. This is due to the epoch-making discovery of the cause and method of treating what is known to the scientist as pyorrhea dentalis and alveolaris and to the layman as Rigg's disease. This is a suppuration around the roots of the teeth and causes an inflammation which produces loosening and loss of the teeth. At one time or another practically everybody has Rigg's disease. It is caused by a minute single-celled animal called the *endamoeba buccalis*. This malevolent parasite does its work in combination with the pus-producing bacteria or germs. The skillful teamwork between these two destroys the delicate membrane which surrounds the roots of the teeth and causes them to fall out.

The necessity of good teeth in order to have good health has been recognized a long time, but the scientists of our country have only recently worked out the relationship between decay of the teeth and Rigg's disease on the one hand, and rheumatism, serious heart disease and high blood pressure on the other. So firmly have these facts been proven that the modern, up-to-date physician begins the treatment of such diseases by an inquiry into the condition of the teeth and their sockets. If these are found to be diseased the condition is cured before the treatment goes further. The discovery of the cause of Rigg's disease is therefore of the very greatest importance.

Just as soon as the cause of Rigg's disease was found out the search for the cure began in earnest. It had been previously

discovered that the use of ipecac would cure the diseases which are caused by infection of the intestine with endamoebae. From this it was deduced that a similar treatment would cause the destruction of endamoebae in the mouth. This was found to be the case, and emetin, the form of the drug used, is now administered by physicians for the cure and prevention of the disease. It sometimes takes a considerable time to get rid of all of the malignant germs in this way, but the results which have been obtained have been remarkably good. The treatment is both local and general.

In the matter of preventing mouth disease, it is important that the mouth be cleaned several times a day and that a dentist be visited frequently to remove tartar and the yellowish matter which accumulates along the inner edges of the teeth and between the teeth. This is particularly important in the case of children, because it has been found that many a child is apparently dull who is in reality suffering from a chronic poisoning produced by a mouth full of decaying teeth.

The number of sufferers from Rigg's disease in the United States is very large, and the United States Public Health Service is daily receiving inquiries as to the method of curing and preventing the disease.

REPORT OF STATE BACTERIOLOGIST.

The following table summarized the work of the laboratory for the second quarter of 1915.

	Tuberculosis (sputum) . . .	Typhoid (Widal)	Diphtheria. . .	Water.	Gonococci in- fection.	Malaria.	Rabies.	Tuberculosis (not sputum)	Miscellaneous.	Total
April.	267	45	26	43	4	4	1	10	23	423
May.	205	56	16	14	10	12	.....	7	18	338
June.	183	104	11	39	7	8	2	3	8	365
Totals.	655	205	53	96	21	24	3	20	49	
Grand total.										1,126

Tuberculosis "sputum," per cent positive.	22.4
Typhoid, per cent positive.	19.1
Diphtheria, per cent positive.	26.4
Water coli, per cent positive.	45.7

The Examinations Conducted By and Preparation of Specimens for Sending to the Laboratory.

Sputum.—Specimens of sputum will be examined only when received in containers furnished by the State Board of Health for that purpose. These outfits may be obtained by addressing the State Bacteriologist, Jefferson City, Mo. Full directions accompany each outfit.

Blood.—It is impossible to examine a single specimen of blood for both typhoid and malaria. For the Widal test for typhoid the blood is best obtained by pricking the lobe of the ear with a flat or a three-cornered needle, or the point of a knife. The ear should first be rubbed with cotton and alcohol, then dried, and the needle should be sterile. Two or three good-sized drops should be collected on filter paper provided by the laboratory for this purpose.

For malaria the blood is obtained in the same way, but must be spread in a thin, even smear on a glass microscope slide. This is done as follows: A small drop of blood is received onto the slide near one end by touching the slide to the blood as it hangs from the lobe of the ear. The slide is then laid on a firm, flat surface, and the end of a second slide, held at an angle of

about thirty degrees with the first slide and touching it, is brought into contact with the drop of blood. In two or three seconds the blood will have run across the slide at the point of contact. Then the second slide is pushed along on the first with a moderate speed, so as to leave a thin, even smear on the surface of the first slide. A second smear may be made in a similar manner on the other slide. Caution: Have slides perfectly clean, handle only by the edges and work rapidly. Allow them to dry in the air without heat.

Blood should never be placed between slides and sent to the laboratory.

Swabs for Diphtheria.—The regulation tube and mailing case, to be obtained from the laboratory, should be used for this purpose. Full directions accompany each outfit.

Water.—Specimens of water are examined for the absence or presence of colon bacilli, an index to sewage pollution, and for the total number of bacteria.

For this it is imperative that all samples be iced from the time of taking until they reach the laboratory. For this purpose special containers may be obtained from the laboratory, express charges to be paid both ways by sender of specimens.

Pus.—Pus, to be examined for gonococci, should be sent on a slide prepared as follows: A small amount—much less than a drop—should be mixed on the slide with a small drop of water and thinly spread over an area a half inch or more in diameter and allowed to dry.

In taking a specimen of leucorrheal discharge, the precaution of first giving a douche should always be taken, in order to remove as many as possible of the other bacteria present. The pus may then be expressed from the urethra, or obtained from the cervix by means of a speculum, and the slide properly prepared. Unless this is done, the great numbers of bacteria found normally in the vaginal secretion will so obscure the field as to make a satisfactory examination impossible.

An initial or number may accompany the specimen in place of the patient's name.

Do not press slides together.

Rabies.—Unless the animal shows symptoms of rabies, it should not be killed, but should be held for observation, in which event, if positive, death will ensue in a very few days, in ample time to begin treatment of the patient. Do not kill the animal by a blow or shot in the head, as this may make a proper exam-

ination impossible. The head only of the animal should be sent, and that at the earliest possible moment. The head is to be placed in a tin bucket with a tightly-fitting cover, which bucket is to be placed in a larger wooden or iron bucket and surrounded by sawdust and iced. The heads of animals freshly killed may be sprinkled with salt, packed in wet sawdust in a strong wooden box and expressed.

Urine.—Specimens of urine are examined for tubercle bacilli in suspected cases of genito-urinary tuberculosis.

In sending specimens of urine to be examined for tubercle bacilli, the following points should be carefully noted:

1. The specimen should be obtained by catheter and drawn directly into a sterile bottle.

2. It should be stated upon the card accompanying the specimen that it was obtained by catheter.

3. Two or four ounces of urine should be sent and no preservative should be used.

Feces.—Feces will be examined for tubercle bacilli and for the ova of intestinal parasites (hookworm).

There is kept on hand a supply of typhoid vaccine for immunization which is supplied to physicians upon request. When writing for the vaccine, kindly state the number of patients to be immunized, and enclose ten cents in stamps to cover postage.

The antirabic treatment as prepared in the laboratories of the American Public Health Service will be administered free of charge to indigent persons of the state at this laboratory only. The treatment requires twenty-one days and should be begun within fourteen days from the time the patient was bitten.

When the treatment is desired the State Bacteriologist should be notified by wire at least three days before the patient arrives in Jefferson City, thus allowing ample time to secure the individual treatment from the laboratory at Washington, D. C.

VITAL STATISTICS.

Summary Showing Comparison of Important Causes of Deaths and Registration of Births During April, May and June, 1915.

Statistics compiled for the second quarter of 1915, April, May and June, show that there was a total of 9,314 deaths. Of this number 5,208 were males, 4,106 females, 8,378 whites, 936 blacks.

The month of April showed the greatest number of deaths, 2,763, and June the lowest, 2,665. For the same quarter in 1914 there were 9,952 deaths, or 638 more than in 1915. This is a noticeable improvement in the health conditions of the state compared with one year ago.

Tuberculosis heads the list of causes of death for the quarter with 1,196; diseases of the heart and circulatory system, 1,160; pneumonia, 990; other diseases of the nervous system, 824; acute nephritis and Bright's disease, 824; cancer, 525; respiratory system, 167; accidents, 400; influenza, 107; suicides, 193; diphtheria and croup, 87; diarrhoea and enteritis (under two years), 134; puerperal state, 86; diabetes, 94; homicides, 57; typhoid fever, 63; scarlet fever, 7; whooping cough, 30; acute poliomyelitis, 10; epidemic cerebrospinal meningitis, 9; small-pox, 3; measles, 30, and other causes, 2,201.

There were 16,165 births reported as having occurred during April, May and June, of which 8,139 were males, 7,513 were females, 15,652 whites and 573 blacks.

It will be noted from the foregoing that there were 6,581 more births than deaths during the quarter.

C. J. KAISER,

Chief Statistician.

Table Showing Births Filed with the Central Bureau of Vital Statistics During Months of April, May and June, 1915, by Sex and Color (Stillbirths Excluded).

Month.	Total.	Male.		Female.	
		White.	Black.	White.	Black.
April.....	5,227	2,646	62	2,456	63
May.....	5,310	2,648	106	2,475	81
June.....	5,628	2,845	91	2,582	110
Totals.....	16,165	8,139	259	7,513	254
Total by sex.....		8,398		7,767	

Table Showing Deaths from Twenty-four Important Causes During April, May and June, 1915 (Stillbirths Excluded), Filed with the Central Bureau of Vital Statistics.

Causes.	April.	May.	June.	Total.
Typhoid fever.....	22	15	26	63
Smallpox.....	2		1	3
Measles.....	11	15	4	30
Scarlet fever.....	1	4	2	7
Whooping cough.....	10	11	9	30
Diphtheria and croup.....	34	25	28	87
Influenza.....	73	27	7	107
Tuberculosis of lungs.....	489	376	331	1,196
Other forms of tuberculosis.....	31	50	36	117
Cancer.....	179	163	183	525
Diabetes.....	39	33	22	94
Epidemic cerebrospinal meningitis.....	2	3	4	9
Acute anterior poliomyelitis.....	4	3	3	10
Other diseases of the nervous system.....	294	294	236	824
Diseases of heart and circulatory system.....	442	374	344	1,160
Pneumonia and bronchopneumonia.....	581	257	152	990
Other diseases of respiratory system.....	75	55	37	167
Diarrhoea and enteritis (under two years of age).....	43	26	65	134
Acute nephritis and Bright's disease.....	319	254	251	824
The puerperal state.....	30	24	32	86
Accidents.....	122	118	160	400
Suicides.....	69	63	61	193
Homicides.....	28	15	14	57
Other causes.....	863	681	657	2,201
Totals.....	3,763	2,886	2,665	9,314

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1915—Continued.

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1915—Continued.

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losts.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Broncho- pneumonia.....	Other diseases of respira- tory system.....	Diarrhea and Enteritis (under 2 years of age) .	Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Franklin—	29,830																											
April.....		48	33								4		3	1			3	3	3	1		2			1			7
May.....		46	29	1							2						3	4	1	1	2	2		2			7	
June.....		53	26					3		2	2	1	1				3	3	2	2							4	
Totals.....		147	88																									
Gasconade—	12,847																											
April.....		35	12	1					1		1		1				1	3	1					1				2
May.....		22	8								1									1	1							4
June.....		25	10														2	1	1	1								4
Totals.....		82	30																									
Gentry—	16,820																											
April.....		24	25							1	3		1				3	3	2		1	2						9
May.....		20	18							1			1				2	2	3			1						2
June.....		24	10					1					1				2	1	1	1								3
Totals.....		68	53																									
Greene—	28,630																											
April.....		36	18								3		2				2	3	3									4
May.....		34	19							1	4	1	1				2	4			1				1			4
June.....		34	15			1					2						1	2	2	1								6
Totals.....		104	52																									

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1915—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup...	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Howell—	21,065																											
April.....		43	27								3		1				4	1		2	1		2				10	
May.....		31	22								3			1			2	3			1						10	
June.....		37	12								3		1				2				1						5	
Totals.....		111	61																									
Iron—	8,563																											
April.....		23	9								1			1			1	1			1						4	
May.....		11	12								2		1				1	2										
June.....		12	7								3						2										2	
Totals.....		46	28																									
Jackson—	35,141																											
April.....		68	56	1					1		5		1				6	4	12	1	1	6		1	1		16	
May.....		55	25	1							3		2				3	5	4			3					3	
June.....		59	20								1		2	1			4	1	2				1				4	
Totals.....		182	101																									
Kansas City—	248,381																											
April.....		368	420	2	1				3	5	56	1	20	7			29	50	62	4	7	36	5	26	10	11	85	
May.....		378	330	2					5	1	50	4	22	2			21	52	30	5		22	1	16	11	6	80	
June.....		422	279	1					4	1	30	4	22	3			21	50	18	3	3	31	1	15	9	3	60	
Totals.....		1,168	1,029																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1915—Continued.

Counties.	Important causes of death.	Other causes.....	1	3	1	5	1	1	2	2	8	9	1	5
		Homicides.....												1
		Suicides.....				1								
		Accidents.....				1	1	1				1	1	
		The puerperal state.....				1	1	1				1	1	
		Acute Nephritis and Bright's Disease.....	1				1					1	1	
		Diarrhoea and Enteritis (under 2 years of age).....											5	
		Other diseases of respiratory system.....		1		1						1		
		Pneumonia, Broncho-pneumonia.....	2	2		1			2		6	1	1	
		Diseases of heart and circulatory system.....	1			1	2	2	1	1	2	3		
		Other diseases of the nervous system.....		2	1	1					1	1	2	
		Acute Anterior Poliomyelitis.....												
		Epidemic Cerebrospinal Meningitis.....												
		Diabetes.....												
		Cancer.....					2		1		1			
		Other forms of Tuberculosis.....												
		Tuberculosis of the lungs.....	2	1		1	1	2	2	1	3	5	1	2
		Influenza.....				1	1							
		Diphtheria and Croup...											1	
		Whooping Cough.....		1										
		Scarlet Fever.....												
		Measles.....												
		Smallpox.....												
		Typhoid Fever.....	1						1					
	Total deaths during the quarter.....		8	8	4	20			7	6	17	23	14	60
	Total births during the quarter.....		24	17	21	62			27	17	33	31	48	112
	Population, 1910.....		14,681						11,926			19,559		
Oregon—	April.....													
	May.....													
	June.....													
	Totals.....													
Osage—	April.....													
	May.....													
	June.....													
	Totals.....													
Ozark—	April.....													
	May.....													
	June.....													
	Totals.....													
Pemiscot—	April.....													
	May.....													
	June.....													
	Totals.....													

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1915—Continued.

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
JUNE 30, 1915—Continued.

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, B r o n c h o- pneumonia.....	Other diseases of respira- tory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Taney—	9,134																											
April.....		18	6																									
May.....		7	3																									
June.....		14	7																									
Totals.....		39	16																									
Texas—	21,459																											
April.....		45	20	1																								
May.....		36	20																									
June.....		33	8																									
Totals.....		104	48																									
Vernon—	28,827																											
April.....		45	20																									
May.....		38	23																									
June.....		38	30	1																								
Totals.....		121	73																									
Warren—	9,123																											
April.....		8	6																									
May.....		10	6																									
June.....		12	6																									
Totals.....		30	18																									

MISSOURI
STATE BOARD OF HEALTH



QUARTERLY BULLETIN
NEW SERIES

VOL. 5. JULY-SEPTEMBER, 1915. NO. 3.

MEMBERS OF THE BOARD

F. H. Matthews, M. D., Pres..	Liberty	T. A. Son.....	Bonne Terre
G. O. Cuppaidge, M. D., Vice-Pres....		R. L. Wills, M. D.....	Neosho
.....	Moberly	M. R. Hughes.....	Met. Bldg., St. Louis
J. A. B. Adcock, M. D., Sec'y.....		T. H. Wilcoxon, M. D.,	Bowling Green
.....	Jefferson City		

Dr. George H. Jones, State Bacteriologist, Jefferson City.
C. J. Kaiser, Statistician, Jefferson City.

CONTENTS

	Pages		Pages
Little Odd Items.....	3-4	The Campaign Against Cancer in Mis-	
The Plague.....	4-6	souri.....	16-18
Committee Meeting.....	6-7	If China Leads the World in Medicine	
Next Examination.....	8	She Will Also Lead World in Starva-	
A New Disinfectant.....	8-9	tion.....	18-19
Ubiquity of the Diphtheria Bacillus..	9-10	Only a Dad.....	20
Old Age.....	10-11	My Unknown Way.....	20
Good Water for Farm Homes.....	11-12	Intellectual Limitations.....	21
Spread of Disease by Rodents.....	12-13	Report of State Bacteriologist.....	22-24
Typhoid Vaccination Gaining Favor.	13-14	Vital Statistics.....	25-49
Typhoid Fever is Preventable.....	14-16		



BULLETIN OF THE Missouri State Board of Health NEW SERIES

VOL. 5.

JULY-SEPTEMBER, 1915.

NO. 3.

Little Odd Items.

Warm feet, a cool head and a loving heart are conducive to health and happiness.

* * * *

If you are restless and sleepless after retiring, relax your muscular system and take sixty deep inspirations.

* * * *

Retire at 9 p. m. Rise at 5 a. m. This is conducive to good health and will lengthen your days.

* * * *

Never quarrel. Do not apologize very often for wrong doing. Do right the next deal and hold your tongue, then keep on doing right.

* * * *

If a chiropractor cures deafness by adjusting the fourth cervical vertebra, what would happen if the acoustic nerve should not pass that way sometime.

* * * *

Some doctors make a big roar when some old woman acts as midwife without a license. Keep cool Doc. They do no harm. Think how it happened that you are not an old grannie woman yourself.

* * * *

If one per cent of all well persons carry diphtheria germs in their throats and noses, they should be censored, before they are kissed, in every epidemic.

* * * *

Doctors are very Godlike, in some respects: "For our God is a *jealous* God."

A doctor who is a scoundrel has no standing in his profession. A lawyer most skilled in clearing scoundrels runs for Governor and is sometimes elected Supreme Judge.

* * * *

Some doctors who have a license cannot sign their own name intelligibly, nor can they properly fill out a death certificate.

What a blessing it will be to suffering humanity and to those who try to read their signatures when some doctor who can read and write is called upon to fill out and sign their death certificate for them.

* * * *

From examination paper: "The eruption in smallpox is popular, pustular and pistular."

* * * *

Adonijah ran against Solomom for King over Israel. Solomon beat him to it and after he was anointed king, Adonijah got scared and rose up and ran and took hold of the horns of the Altar, begging a promise from Solomon to do him no harm.

When Houchin is anointed Governor over Missouri, the Altar will be a busy place. Hope he will not dehorn it.

* * * *

A doctor's wife tells me that they were so poor when they began to practice medicine that all they had to eat was potatoes, salt and water; and when they got rich enough to butter their potatoes the other doctors got jealous and began to knock.

* * * *

Can you beat it? Married 8 times, father of 28 children, grandfather of 80, 75 years old, this wife 37. Stoddard county.

The Plague.

It was in June, 1914, that bubonic plague appeared in New Orleans. Two persons were found with the disease and a number of other cases developed in quick succession with considerable mortality.

Bubonic plague is primarily a disease of inferior animals, such as rats, ground squirrels and other rodents. Fleas get on them and fill up on their blood, drop off, then get up and proceed to tackle both men and women, regardless of race, financial

standing, or previous condition of servitude, and whoever they bite takes the disease. In this way, alone, is bubonic plague propagated.

Upon investigation it was found that numbers of rats were sick and dying with the plague. It was, therefore, necessary to begin active work at once to stamp out this horrible disease. To this end New Orleans, the State of Louisiana and the United States public health service all worked faithfully and in harmony under the supervision of Surgeon General Rupert Blue to destroy all rodents in the disease stricken area. It seems that they have at last been crowned with success, as on September 8, 1915, is the last date that any person has been found to have the disease and the last diseased rat was found October 2, 1915. An untold amount of labor and vast expenditures of money have been used in bringing about such results.

Trapping, poisoning and killing the rat by any other means, were considered admissible warfare. A great deal of money was spent for traps and poison. Hundreds of thousands of dollars were spent for cement in rat-proofing buildings, a device to starve them out and break up their hiding places. This stops their breeding. One hundred thousand buildings have been rat-proofed in New Orleans.

The fumigation of all ships and railroad trains leaving New Orleans required great vigilance and constant work. Hundreds of tons of fumigating material were used. All this to stamp out the disease and keep it from spreading to other states.

Had this disease been overlooked for a few weeks or months, until it had gotten a foothold in a number of other states and cities, we would all today be seriously menaced by the most loathsome disease known to humanity. And for waging an extremely expensive warfare against rodents, we all extend our thanks to New Orleans, Louisiana and the Federal Government, under the direction of Dr. Rupert Blue, for this splendid achievement in stamping out this loathsome, dread disease.

We should not in this connection forget to thank our own Dr. G. O. Cuppidge who volunteered his service and went to New Orleans and accepted his assignment to the most dangerous places in field, microscopic and other important work; thus gaining sufficient scientific knowledge to conduct a successful campaign, had we been invaded by the plague. The surgeon in charge wrote me praising the work of Dr. Cuppidge. All

Missouri should join in thanks to him for this sacrifice. I know it was a *great sacrifice* that no member of our Board was anxious to make.

Thank you, Dr. Cuppaidge.

J. A. B.

P. S. The rat is very destructive in his habits.

He destroys annually in Missouri hundreds and thousands of dollars worth of cereals and other farm products.

He is a nuisance about the house.

He makes himself at home in the cellar.

He wipes his dirty, germ-laden feet on fruits and vegetables.

He eats a hole through the plaster and walks into the parlor.

He inspects the kitchen and dining room.

He makes free to help himself to everything in sight.

He has never added one penny to the wealth of the state.

He has been no help to a single individual.

He takes toll from all alike.

He stands *teeth* and *toe-nail* for the *robber tariff*.

He is neither a Republican nor Democrat. Wet nor Dry.

He is an extravagant, disease-spreading, dirty, thieving little "*Kuss*."

Let's KILL him.

Committee Meeting.

A committee of the Board of Health, consisting of Drs. Matthews, Cuppaidge, Wills and Adcock, met with Dr. Paul Paquin, health commissioner of Kansas City, Mo., at the Muehlebach Hotel September 27th. Dr. Paquin outlined to some extent the method of handling the quack doctors in Kansas City and also promoting hygienic measures in the schools as well as throughout the city in general. He seems to have the backing of the authorities of Kansas City, and we think he is inaugurating a splendid work.

In obedience to a letter sent out by Dr. Paquin to the chiropractors in Kansas City, three of them, one lawyer and two teachers, appeared before the Board for the purpose, as they said to help out in any health measure the doctor might request of them which would be in harmony with the rulings of our committee. As citizens of Missouri we welcomed the chiropractors, but as physicians or parties competent to treat

sick people they were made to know that the medical profession as well as the laws of our state does not recognize this cult as sufficiently advanced in the science of medicine to entrust to their charge the sick and afflicted. Therefore, they were advised to not attempt to practice medicine or treat the sick and afflicted anywhere in the State of Missouri until they qualified themselves as doctors. That we had advised, and would continue to advise the prosecution of their practitioners throughout the state.

On the 28th, 29th and 30th of September we held an examination in Muehlebach Hotel. There were thirty-two present to take the examination to practice medicine and six for the midwife examination. The names of those who took this examination and passed are as follows:

Alsaker, Rasmus Larrsen
 Arnold, Romus
 Atwood, Moltison Fremont
 Bernard, LeRoy
 Bina, Albert Francis
 Boemer, Irving Henry
 Edwards, G. W.
 Fox, Alonzo Walter
 Gray, Alfred Noble
 Griggs, Earl Elmo
 Grote, Oscar Adolph
 Harvey, Harvie
 Haseltine, Sherwin Livingstone

Hubert, May Eve Urner
 Jacobs, Gustave Edgar
 Jaques, Jefferson Singleton
 Lieser, Frederick D.
 Pellettieri, Giuseppe Mario
 Roney, William
 Simmons, Sterling Price
 Slaughter, Fred Milton
 Smith, George Milton
 Tucker, Arthur Ottis
 White, James Ethel
 Wilkerson, James Willie.

The following failed:

Dorsey, Jackson Stonewall
 Edwards, Joseph Madison
 Evans, James Alfred
 Jones, T. J.

Pope, James Ethel
 Tipton, Pleasant Corrydon
 Toy, Lee
 Trimble, Wilbourne Frank.

There were six midwives took the examination, of whom three passed and three failed.

Dr. Loren R. Weir of Lathrop, Mo., was rejected by the committee from taking this examination on account of charges of unprofessional and dishonorable conduct.

Next Examination.

Our next examination will be held in St. Louis, Mo., at the Jefferson Hotel on December 13, 14 and 15, 1915. Midwives will be examined at 9:00 o'clock a. m. on the 15th.

(Health News, Issued by the U. S. P. H. S.)

A New Disinfectant.

As a result of experiments conducted at the hygienic laboratory of the United States Public Health Service it is announced that a new disinfectant, possessing qualities superior to ordinary disinfectants, has recently been discovered. The announcement is particularly important at this time, coming as it does in the face of the shortage in coal tar derivatives which has resulted from the European conflict.

The new preparation is derived from pine oil, a by-product in the manufacture of turpentine. It is easily prepared by mixing certain proportions of the oil with rosin and sodium hydroxide solution, the finished product being a reddish-brown liquid, rather thick and oily in appearance but free from turbidity. With water it makes a perfectly white emulsion, much resembling milk. It has a pleasing odor, no objectionable taste, and attacks neither fabrics nor metals. It possesses over four times the disinfectant properties of carbolic acid and is altogether nontoxic, so that it may safely be used as a throat spray or mouth wash in solutions of the ordinary strength. The cost of the preparation is remarkably low, as it can be manufactured for less than fifty cents a gallon, solely from products which are produced in this country.

Many of the disinfectants now on the market are neither efficient nor economical, it having been demonstrated that a number of the most expensive and widely advertised are extremely weak in disinfecting power, so much so that their strength is undeterminable by ordinary methods. The sale of compounds of this nature constitutes a fraud. A second class of proprietary preparations are of guaranteed strength, thus putting a legal responsibility upon the manufacturer, but the cost of these per unit of disinfecting power is frequently excessive. The householder is therefore often at a loss to select

a disinfectant which is efficient, economical and of constant strength and it is believed that this new compound, which is to be known as "Hygienic Laboratory Pine-oil Disinfectant," will become one of the most useful preparations of that character.

(Health News, Issued by the U. S. P. H. S.)

Ubiquity of the Diphtheria Bacillus.

Widespread Prevalence of this Germ Among Unsuspecting Persons, as Shown in a Recent Publication of the U. S. Public Health Service.

It has long been known that diphtheria germs are present in the throats of many perfectly healthy persons and that many cases of this disease may be accounted for only by their infection from such "carriers." To what extent these germs occur among healthy persons has been a point that has never been definitely determined, some workers claiming that as many as one in every twenty persons carried these germs and distributed them more or less indiscriminately. To determine this point the United States Public Health Service conducted an investigation of the prevalence of diphtheria carriers in the city of Detroit during the winter of 1913-14. This investigation stands as one of the most thorough and painstaking searches of its kind.

Should this report be read by all the inhabitants of Detroit over 4,000 of them would recall the visit of the "health officer" who examined their noses and throats and took "cultures" from both locations.

In the laboratory the officers of the service examined the 8,758 cultures taken from 4,093 persons; five bacteriologists examined the "smears" from an average of 158 cultures a day. The results of this examination were that very nearly one per cent—.928% to be exact—of all the persons examined was found to carry diphtheria germs in their throat or nose, or both.

One per cent does not ordinarily sound large to the average person, but let us see what it means to the individual. In time of epidemic prevalence probably one in every hundred persons he meets has diphtheria germs in his throat and in all probability on his hands and clothes as well, since it is one of the most common practices in the world to put the hand to the mouth. It is probable that the average individual comes in contact with a hundred or more persons every day and is hence

practically daily exposed to infection with diphtheria. Some persons, mainly those remaining at home, associate with but few, but other members of the household are not so isolated. School children come in close contact often with more than a hundred others in a day. Occasionally one may even see a hundred persons on a single street car and none will doubt that many more than that number will cough into the air of a moving picture theatre during an evening.

To demonstrate further what one per cent means, let us see what are the actual figures. In 1914 the official census of Detroit was 537,650. One per cent of this is 5,376. It would be difficult indeed for any one living in Detroit to avoid contact with one, two, five or more of these 5,376 disseminators of diphtheria germs. Nor is there reason to believe that in time of epidemic the figures for any other large community are lower in proportion.

These data gathered by the Public Health Service, as well as data of the same nature obtained by other workers, demonstrate one of many reasons for personal care of the throat and nose, avoidance of too intimate contact with others, and the necessity of early preventive measures in the case of those suffering from "sore throat" and lesions suspicious of diphtheria.

(Health News, Issued by the U. S. P. H. S.)

Old Age.

The United States Public Health Service and the various health agencies of this country are working to prolong the average duration of life. In this they are obeying the desire for existence, which is the strongest instinct of mankind. Only a small proportion of the human race rounds out its tour of duty on this earth. Some people are born with good bodies which they treat well. Barring accidents, they live a long time. Some people are born with poor bodies which they treat well. Barring accidents they can live to a ripe old age. Some people are born with good bodies which they treat badly and some people are born with poor bodies which they treat badly. They don't last long.

It is recorded that in Yorkshire in 1501 Henry Jenkins was born. He died in 1670, cut off at the age of 169. He remembered well the battle of Flodden Field. This occurred in

1513, when he was 12 years of age. The register of chancery and other courts show the administration of oaths to him 140 years prior to his death. He gave deposition as witness when he was 157. In his young manhood, when he was a little over 100, he was a remarkable swimmer.

The term "old age" too frequently is another name for the falling due of the debts of youth. Over-eating, over-drinking, over-playing, over-working, these are drafts on the bank of nature which sooner or later must be met. Sometimes the day of reckoning can be put off a little bit, but Dame Nature will not be wheedled out of her claim.

The remarkable thing about Henry Jenkins is the fact that he has left behind him no rules of living which would enable one to duplicate his feat. In this he showed great self-repression. As a matter of fact, there is no royal road to old age and it is not to be attained by a particular dietary or regimen of life. Perhaps the best rule may be expressed in one word, "Moderation." Moderation in food, moderation in drink, moderation in the joys and worries of life, moderation in work, moderation in recreation, equanimity of the mind, the soul and the body. These make for long tenure of life.

(Health News, Issued by the U. S. P. H. S.)

Good Water for Farm Homes.

Clear, sparkling water is not always pure water. A refreshing draught from "the old oaken bucket" may be the beginning of a long and possibly fatal illness from typhoid fever, dysentery, cholera or other disease.

The subject of pure water supplies for drinking and cooking purposes is discussed in a bulletin just issued by the United States Public Health Service under the title "Good Water for Farm Homes."

The germs of the so-called water-borne diseases come from the bodies of persons afflicted with those diseases. They do not live long outside the body and do not originate spontaneously in nature. A few diseases are communicated from animals to man, but for the most part the germs which get into drinking water and produce disease come only from human beings. If we keep the waste products from the bodies of human beings and animals away from our water supplies, we keep the water free from disease germs.

The usual sources of farm water supplies are wells, springs and cisterns. Running streams are so seldom free from dangerous pollution that without purification they cannot often be considered safe for domestic use.

The most common form of supply is the shallow well, reaching into a layer of earth saturated with water. Few of these are fed by flowing streams, except in limestone formations, and they are really little more than reservoirs for "surface water." Since they drain the surface for a radius of sometimes several hundred feet, their location with reference to stables, outhouses and stock pens is a matter of prime importance. Other possible sources of pollution are a leaky or loose well casing, a defective curb, or a cover that is not watertight. The best methods of constructing such wells and protecting their contents are set forth in this bulletin of the Public Health Service.

Artesian wells, driven wells, cisterns and natural springs are also discussed in this publication, and safeguards against pollution prescribed. It is sometimes impossible to secure pure water for drinking and cooking, and methods of purification must be adopted. It should be borne in mind also that once a safe supply is obtained, its purity is insured only by the continued observance of the principles of common sense and common cleanliness. These are neither difficult nor expensive.

(Health News, Issued by the U. S. P. H. S.)

Spread of Disease by Rodents.

That the migratory habits of rodents have a bearing upon the spread of disease is not generally known, but the United States Public Health Service, as a result of experiments conducted in plague epidemic work at New Orleans, asserts that such is the case. This is but another illustration that the field of preventive medicine is especially broad, and investigators therein must be thoroughly familiar with the life history and habits of flies, mosquitoes, ticks and even rodents.

Several hundred captured rats were marked for purposes of identification by having their ears punched, care being taken not to render them conspicuous, as fellow rodents wage relentless warfare upon those which appear different from their kind. They were then released in the heart of the city and allowed

to shift for themselves. Trapping was carried on in all sections, and each rat was labeled as to the locality caught. Fully one quarter of the rats made widespread excursions—that is, they were recaptured at points from one to four miles from where they were liberated. In one instance, a rat traveled 19 blocks, crossing one of the widest and busiest streets in the city, where there was no subterranean passage, and was retaken within 60 hours from the time of its liberation. From the experiments it is concluded that the semi-domesticated rat has migratory habits similar to wild animals, and that these habits are influenced by abundance or scarcity of food, facility for harborage, or the presence of natural enemies. It is also believed that certain inexplicable instincts tend to make the rat a wanderer. That in this instance the “homing” instinct was not responsible for the migration was clearly proven.

This migratory habit of rodents explains many facts connected with the dissemination of plague; it will also doubtless prove enlightening to those who have attempted to exterminate rats for economic reasons. The Indian Plague Commission was of the opinion that rats seldom journeyed from one section of the city to another, but the conclusion of the public health officials is quite the opposite. As a measure of the success of trapping operations, it is interesting to note that over one-half of the rodents liberated were recaptured within a month.

(Health News, Issued by the U. S. P. H. S.)

Typhoid Vaccination Gaining Favor.

An enormous increase in the number of persons seeking anti-typhoid vaccination is reported by the U. S. Public Health Service. Not alone is this increase manifested among the beneficiaries of that organization and government employees, but the general public is also awakening to the value of the inoculation. Reports from physicians throughout the country indicate that many are receiving the preventive treatment, and laboratory establishments have had a greatly increased demand for the vaccine. So great is the call among employees of the government that it has been necessary to issue a second edition of the Secretary of the Treasury's circular stating the localities where the treatment may be received. It is estimated that during 1914 over 100,000 persons throughout the country were immunized and it is believed that in 1915 the number will ex-

ceed 300,000. In four counties of North Carolina, where campaigns are now being conducted, it is estimated that 20,000 people will be immunized.

The public is seldom slow to accept an innovation of worth. The reduction of the case rate in the army from 536 per 100,000, before the discovery of anti-typhoid vaccine, to 3, since inoculation was made compulsory, has not passed unnoticed. During four months of 1898 there were over 2,000 cases of typhoid among 10,000 soldiers encamped in Florida; in 1911, among 20,000 men similarly encamped, there were but 2 cases. If such a degree of immunity can be harmlessly conferred upon a body of men living under adverse conditions and whose age renders them susceptible, the conclusion is that protection can just as easily be afforded ordinary citizens.

Anti-typhoid vaccination is quite as simple as that for smallpox and even children do not complain. There are no local effects other than a slight reddening at the site of the injection, and sore arms are entirely lacking. In a small percentage of cases a mild systemic reaction, accompanied by headache and a slight rise in temperature, occurs, but if the treatment is given at night the person's rest is undisturbed and he is entirely unaware of these symptoms. In the majority of instances, however, there is not the slightest inconvenience. The immunity probably lasts for several years, although its duration is less than that of smallpox, which frequently persists for a lifetime.

(Health News, Issued by the U. S. P. H. S.)

Typhoid Fever is Preventable.

Four hundred thousand persons incapacitated, and thirty thousand lives lost—this is the heavy toll exacted in the United States each year by the scourge of typhoid fever. And typhoid fever is a preventable disease.

A recent bulletin of the United States Public Health Service entitled "Typhoid Fever—Its Causation and Prevention," states that within the past ten years few of our communities having as many as two thousand persons have remained free from this disease for any period of twelve consecutive months. In recent times the rate of its prevalence for the United States as a whole has been from two to five times as high as in some

of the countries of Europe. In these European countries the typhoid rate was formerly higher than the present figures for the United States. Their great reductions in the ravages of the disease have been brought about by improvements in sanitary conditions.

In many American cities there has occurred within the last twenty years a considerable reduction of typhoid fever. Due in a large part to improved sanitary conditions in the cities, the typhoid rate for some entire states has shown a material decrease. For the country as a whole, according to available figures, the rate has been reduced about 50 per cent in the past 40 years. But the present rate is about the same as that which prevailed in some of the other advanced nations of the world 30 years ago. In other words, the United States is a generation behind the times, in respect to the reduction of its typhoid rate.

Practical and efficient measures for the prevention of typhoid fever are definitely known, but the efforts to get the people of the average self-governing community to carry out these measures to a reasonable extent are oftentimes decidedly experimental in character. In many instances the cost of modern sanitary improvements has been an obstacle in the way of typhoid prevention. It is often difficult to convince the governing authorities that money expended in the protection of the public health yields large dividends.

In rural communities and small municipalities another factor—the instruction and co-operation of the individual property owner—enters into the problem. Here every home must have its own method of sewage disposal, and in most cases its own water supply. The Public Health Service bulletin above referred to deals in a comprehensive way with the construction of wells and outhouses.

In recent years a specific method for increasing individual resistance to typhoid germs has been employed. This is known as anti-typhoid inoculation or “vaccination.” This method has been used extensively in military organizations of the United States, and from the results obtained it appears that inoculated persons are, upon equal exposure to typhoid infection, less than one-fourth as likely to develop the disease as those who have not been inoculated and who have previously had the disease. The average duration of protection given by inoculation has not been determined, but is supposed to be about two years.

It is pointed out, however, that the protection given by anti-typhoid inoculation is relative, not absolute, and that such inoculation is not to be regarded as a substitute for sanitation.

(Press Service of the American Society for the Control of Cancer.)

The Campaign Against Cancer in Missouri.

The most recent addition to the many agencies, national and local, now engaged in the warfare on cancer is the department of preventive medicine of the University of Missouri. This department has just published in the University bulletin a special article on the early diagnosis and treatment of cancer by Dr. F. A. Martin, instructor in pathology. The purpose of this bulletin is to call the attention of its readers in Missouri and elsewhere to the campaign for the education of the laity which is being carried on by the American Society for the Control of Cancer, the American Medical Association and other national and state organizations, and to give a brief general survey of the cancer problem as a phase of preventive medicine.

The knowledge and skill of surgeons in the treatment of cancer has progressed, according to the bulletin, almost to the limits of what is possible, and if the percentage of cures by this, the only method of treatment which offers reliable hope of cure, is to be increased, the patients themselves must co-operate by seeking earlier diagnosis and treatment. On examining the histories of a large number of cases it has been found that the patients whom the surgeon failed to cure were those who came to him late in the disease when the cancer had spread to such an extent that to remove all the cancer cells would have required an operation so great that in itself it would be sufficient to cause the death of the patient. On the other hand, it is found of another group of cases which sought treatment soon after the cancer was noticed that 100 per cent were cured. To increase the percentage of cases treated early the University bulletin urges that laymen learn the meaning of cancer and its first warnings in order that they may go to the surgeon in time when the cancer is still in the early stages and the chance for cure is high.

Among the many facts already known about cancer, perhaps the most important is that the disease nearly always begins in some form of abnormal tissue. This abnormal tissue, which is often easily recognized, may have existed for only a

few months or it may have been present from early childhood without causing trouble, only to change into cancer in later life. To these bits of abnormal tissue or groups of cells has been given the name of "precancerous lesion." The bulletin says that not all such conditions develop into true cancers, but most of them should be kept under careful observation by a competent medical adviser and removed as soon as there is real danger of malignant disease. This is the only known method of preventing, as distinguished from curing, cancer and the Missouri bulletin describes carefully the various forms of precancerous lesions which should be regarded with suspicion. Among these are pigmented moles, cracks on the lip, blisters, scabs and similar persisting abnormal conditions of the skin. Probably only a very small proportion of these conditions become cancer, but when moles, for instance, are so located that they are subject to constant irritation and when in later life they change in color and appearance and begin to grow it is time to have them promptly attended to. Moles and warts should never be treated with caustic but the whole lesion together with its so-called roots should be removed. When a burn on the tongue or lip from smoking does not heal within a few months it is a source of danger. Generally speaking, the removal of precancerous lesions is a trivial operation requiring only local anesthesia.

After true cancer has developed it is still possible to cure a large percentage of cases if the surgeon is given a fair chance while the disease is still local. All cases of cancer are local in the beginning and may remain so for a few weeks to several months. It is during this period that surgical treatment offers the possibility of practically 100 per cent of cures. Unfortunately for the patient pain is so rare at this stage of the disease and the conditions seem so trivial that in a great number of cases the opportunity to be saved is forfeited by the delay. In cancer of the breast, for instance, the cases cured by the late operation amount to about 30 per cent, but by an early operation, at least 80 per cent are saved. If every woman who is not nursing would go to a surgeon within 24 hours after she finds a lump in her breast, 90 per cent of the cases of cancer of the breast would be permanently cured.

Cancer of the tongue is perhaps the most malignant and cures by the late operation are few in number. If a small ulcer appears on the tongue consult a surgeon at once. When

such an ulcer is produced by a ragged tooth, consult a dentist first, and then if the ulcer does not heal within a short time after the cause has been removed it is a surgeon's task.

In almost all the common forms cancer is connected with some kind of irritation. Gall stones, for instance, should be removed, since it is established that from four to fourteen per cent of all cases are followed by cancer.

Cancer of the uterus gives early warning by a discharge of an unusual character at an unusual period and of unusual duration. The removal of the uterus is not a dangerous operation and if the disease is recognized at an early stage the life of the patient can be saved.

The bulletin issues an emphatic warning against quacks and their bogus testimonials, pointing out that their method of deception lies mainly in the diagnosis. There are so many conditions closely resembling cancer that the average layman cannot distinguish among them, and it is behind such conditions which are not cancer and which would tend to heal without treatment that the "cancer specialists" take their stand and make their false claims.

The department of preventive medicine will supply copies of this cancer bulletin, Medical Series No. 9, upon request to the University of Missouri, Columbia, Mo., as long as the supply lasts.

If China Leads the World in Medicine She Also Will Lead World in Starvation.

By Herbert Quick.

That project of the Rockefeller foundation to give to China what may enable that ancient empire to "lead the world in medicine" is a most interesting one.

When I say "lead the world in medicine," I am quoting the language of Frederick T. Gates of the foundation, in a published interview.

What will be the state of things in China when she "leads the world in medicine?" She will then lead the world in starvation.

Modern medicine means the prevention of disease, in the main; and successful surgery in surgical cases; and nursing and sanitation in disease; and the intelligent uses of vaccines and

serums when they are available; and some medication; but mostly it means the prevention of disease.

China already has a population which in the good agricultural regions amounts to as much as 3,200 strictly agricultural people to the square mile. In normal years these people produce exactly enough for a subsistence. Their birth rate is about fifty to the 1,000 per year. That means that 150 babies are born on each square mile of these regions every year. A few adults die—in fact, a good many die every year, but not enough to make room for the babies. Many of the girl babies are therefore exposed and allowed to die. Of those boy babies and girl babies which their parents try to rear, enough die every year to keep the population to the square mile about what it has been for centuries. They must die. It is perfectly clear that the population to the square mile can go no higher. Even the best American farming experts can tell those people nothing which will enable them to produce more to the acre.

There are sparsely peopled areas in China, but they are either infertile, overflowed or arid. Fertilization, reclamation, irrigation, development of manufactures—these can only make a little more room for the babies. And the Chinese birth rate will fill up instantly any vacancy in the close-filled Chinese opportunity for making a living.

What China needs is fewer births. So long as she keeps up her birth rate medical education can do no good. The people may as well die of bubonic plague as of diseases of malnutrition or inanition. In other words, it will do them a small favor to save babies and sick people to starve to death. After they have solved their birth problem, the death problem will be in order. Until then the best meant efforts for good health will only make the economic pressure more terrible.

It will be like putting more people on a raft at sea, on which the provisions are already down to the starvation point.

Only a Dad.

Only a dad, with a tired face
Coming home from the daily race;
Bringing little of gold or fame
To show how well he has played the game,
But glad in his heart that his own rejoice
To see him come and to hear his voice.

Only a dad, of a brood of four,
One of ten million men or more.
Plodding along in the daily strife,
Bearing the whips and scorns of life
With never a whimper of pain or hate
For the sake of those who at home await.

Only a dad, neither rich nor proud,
Merely one of the surging crowd.
Toiling, striving, from day to day,
Facing whatever may come his way;
Silent, whenever the harsh condemn,
And bearing it all for the love of them.

Only a dad, but he gives his all
To smooth the way for his children small;
Doing with courage stern and grim,
The deeds that his father did for him;
This is the line that for him I pen,
Only a dad, but the best of men.

—Clipped.

My Unknown Way.

Mayhap it stretches very far,
Mayhap it winds from star to star;
Mayhap through worlds as yet unformed
Its never-ending journey runs,
Through worlds that now are whirling wraiths
Of formless mists between the suns.
I go—beyond my widest ken—
But shall not pass this way again.

So, as I go and can not stay,
And never more shall pass this way,
I hope to sow the way with deeds
Whose seed shall bloom like May-time meads,
And flood my onward path with words
That thrill the day like singing birds;
That other travelers following on
May find a gleam and not a gloom,
May find their path in pleasant way,
A trail of music and of bloom.

—Sam Walter Foss.

Intellectual Limitations.

(*Apologies to James Whitcomb Riley.*)

Doctors knows lots more than us,
 But they don't know all things,
 'Cause we ketch 'em lots o' times,
 Even on little small things.

One time Mamma she ast Dock,
 An' he's a good ol' feller,
 Where the first germ came from,
 An' sir, he couldn' tell 'er.

Yes, and Pap, that vurry day
 Had to go to bed,
 With fever from a skeeter bite—
 That's what the doctor said.

Nen when Pap's all covered up,
 A wet rag on his head,
 And hot bricks to his feet,
 He turnt to Dock, and said:

"What makes me cold when hot as fire,
 An' sweat when cold as freezin' snow?"
 'Nd Dock ist tend he did't hear—
 That's cause he didn't know.

And Uncle one day he ast Dock
 The easiest thing you ever heard—
 What makes a toad cure mad dog bite?
 An' he is couldn't say a word.

—A clipping.

REPORT OF THE STATE BACTERIOLOGIST.

Summary of examinations made in the laboratory during the third quarter of 1915:

	Tuberculosis (sputum).....	Typhoid.....	Diphtheria.....	Malaria.....	Gonococci infection.....	Water.....	Rabies.....	Tuberculosis (not sputum) ..	Miscellaneous...	Total.....
July.....	186	124	22	16	17	33	2	7	19	426
August.....	156	156	25	12	7	40	1	3	10	410
September.....	153	168	61	8	16	37	1	8	7	459
Totals.....	495	448	108	36	40	110	4	18	36	.....
Grand total.....										1,295

Tuberculosis sputum, per cent positive.....	24.0
Typhoid, per cent positive.....	25.4
Diphtheria, per cent positive.....	44.6
Water, per cent positive.....	56.3

The Examinations Conducted by and Preparation of Specimens for Sending to the Laboratory.

Sputum.—Specimens of sputum will be examined only when received in containers furnished by the State Board of Health for that purpose. These outfits may be obtained by addressing the State Bacteriologist, Jefferson City, Missouri. Full directions accompany each outfit.

Blood.—It is impossible to examine a single specimen of blood for both typhoid and malaria. For the Widal test for typhoid, the blood is best obtained by pricking the lobe of the ear with a flat or a three-cornered needle, or the point of a knife. The ear should first be rubbed with cotton and alcohol, then dried, and the needle should be sterile. Two or three good-sized drops should be collected on filter paper provided by the laboratory for this purpose.

For malaria the blood is obtained in the same way, but must be spread in a thin, even smear on a glass microscope

slide. This is done as follows: A small drop of blood is received onto the slide near one end by touching the slide to the blood as it hangs from the lobe of the ear. The slide is then laid on a firm, flat surface, and the end of a second slide, held at an angle of about thirty degrees with the first slide and touching it, is brought into contact with the drop of blood. In two or three seconds the blood will have run across the slide at the point of contact. Then the second slide is pushed along on the first with a moderate speed, so as to leave a thin, even smear on the surface of the first slide. A second smear may be made in a similar manner on the other slide. Caution: Have slides perfectly clean, handle only by the edges and work rapidly. Allow them to dry in the air without heat.

Blood should never be placed between slides and sent to the laboratory.

Swabs for Diphtheria.—The regulation tube and mailing case, to be obtained from the laboratory, should be used for this purpose. Full directions accompany each outfit.

Water.—Specimens of water are examined for the absence or presence of colon bacilli, an index to sewage pollution, and for the total number of bacteria.

For this it is imperative that all samples be iced from the time of taking until they reach the laboratory. For this purpose special containers may be obtained from the laboratory, express charges to be paid both ways by sender of specimens.

Pus.—Pus, to be examined for gonococci should be sent on a slide prepared as follows: A small amount—much less than a drop—should be mixed on the slide with a small drop of water and thinly spread over an area a half inch or more in diameter, and allowed to dry.

In taking a specimen of leucorrheal discharge, the precaution of first giving a douche should always be taken, in order to remove as many as possible of the other bacteria present. The pus may then be expressed from the urethra, or obtained from the cervix by means of a speculum, and the slide properly prepared. Unless this is done, the great numbers of bacteria found normally in the vaginal secretion will so obscure the field as to make a satisfactory examination impossible.

An initial or number may accompany the specimen in place of the patient's name.

Do not press slides together.

Rabies.—Unless the animal shows symptoms of rabies, it should not be killed, but should be held for observation, in which event, if positive, death will ensue in a very few days, in ample time to begin treatment of the patient. Do not kill the animal by a blow or shot in the head, as this may make a proper examination impossible. The head only of the animal should be sent, and that at the earliest possible moment. The head is to be placed in a tin bucket with a tightly fitting cover, which bucket is to be placed in a larger wooden or iron bucket surrounded by sawdust and iced. The heads of animals freshly killed may be sprinkled with salt, packed in wet sawdust in a strong wooden box and expressed.

Urine.—Specimens of urine are examined for tubercle bacilli in suspected cases of genito-urinary tuberculosis.

In sending specimens of urine to be examined for tubercle bacilli, the following points should be carefully noted:

1. The specimen should be obtained by catheter, and drawn directly into a sterile bottle.
2. It should be stated upon the card accompanying the specimen that it was obtained by catheter.
3. Two or four ounces of urine should be sent and no preservative should be used.

Feces.—Feces will be examined for tubercle bacilli, and for the ova of intestinal parasites (hookworm).

There is kept on hand a supply of typhoid vaccine for immunization which is supplied to physicians upon request. When writing for the vaccine, kindly state the number of patients to be immunized, and enclose ten cents in stamps to cover postage.

The anti-rabic treatment as prepared in the laboratories of the American Public Health Service will be administered free of charge to indigent persons of the state, at this laboratory only. The treatment requires twenty-one days, and should be begun within fourteen days from the time the patient was bitten.

When the treatment is desired the State Bacterologist should be notified by wire at least three days before the patient arrives in Jefferson City, thus allowing ample time to secure the individual treatment from the laboratory at Washington, D. C.

VITAL STATISTICS.

Summary Showing Comparison of Important Causes of Deaths and Registration of Births During July, August and September, 1915.

Statistics compiled for the third quarter of 1915, July, August and September, show that there was a total of 8,572 deaths. Of this number 4,920 were males, 3,652 females, 7,759 whites, 813 blacks.

The month of July showed the greatest number of deaths, 2,923, and September the lowest, 2,812. For the same quarter in 1914 there were 9,144 deaths, or 572 more than in 1915.

Diseases of the heart and circulatory system head the list of causes of death for the quarter with 1,001; tuberculosis, 872; pneumonia, 342; other diseases of the nervous system, 751; acute nephritis and Bright's disease, 728; cancer, 526; respiratory system, 138; accidents, 489; influenza, 12; suicides, 147; diphtheria and croup, 75; diarrhoea and enteritis (under two years), 551; puerperal state, 90; diabetes, 78; homicides, 72; typhoid fever, 127; scarlet fever, 1; whooping cough, 29; acute poliomyelitis, 8; epidemic cerebrospinal meningitis, 6; smallpox, 2; measles, 8, and other causes, 2,410.

There were 18,300 births reported as having occurred during July, August and September, of which 9,357 were males, 8,411 were females, 17,768 whites and 532 blacks.

It will be noted from the foregoing that there were 9,778 more births than deaths during the quarter.

C. J. KAISER,
Chief Statistician.

Table Showing Births Filed With the Central Bureau of Vital Statistics During Months of July, August and September, 1915, by Sex and Color (Stillbirths Excluded.)

Months.	Total.	Male.		Female.	
		White.	Black.	White.	Black.
July.....	6,102	3,149	91	2,783	79
August.....	6,003	3,087	87	2,741	88
September.....	6,195	3,121	107	2,887	80
Totals.....	18,300	9,357	285	8,411	247
Total by sex.....			9,642		8,658

Table Showing Deaths from Twenty-four Important Causes During July, August and September, 1915 (Stillbirths excluded), Filed With the Central Bureau of Vital Statistics.

Causes.	July.	August.	Sept.	Totals.
Typhoid Fever.....	33	44	50	127
Smallpox.....		1	1	2
Measles.....	3	5		8
Scarlet Fever.....	1			1
Whooping Cough.....	16	6	7	29
Diphtheria and Croup.....	17	30	28	75
Influenza.....	3	4	5	12
Tuberculosis of Lungs.....	318	295	259	872
Other forms of Tuberculosis.....	38	44	27	109
Cancer.....	164	180	182	526
Diabetes.....	28	24	26	78
Epidemic Cerebrospinal Meningitis.....	3	3		6
Acute Anterior Poliomyelitis.....	4	2	2	8
Other Diseases of the Nervous System.....	244	249	258	751
Diseases of Heart and Circulatory System.....	345	307	349	1,001
Pneumonia and Broncho-pneumonia.....	88	116	138	342
Other Diseases of Respiratory System.....	43	48	47	138
Diarrhoea and Enteritis (under 2 years of age).....	168	192	191	551
Acute Nephritis and Bright's Disease.....	256	244	228	728
The Puerperal State.....	38	27	25	90
Accidents.....	181	156	152	489
Suicides.....	51	48	48	147
Homicides.....	31	27	14	72
Other Causes.....	850	785	775	2,410
Total.....	2,923	2,837	2,812	8,572

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Bright's Disease.....	Acute Nephritis and The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Barry—	23,869								1												1	2	1					8
July.....		52	17																		2	1						1
August.....		24	11																		1	2						1
September.....		40	14							1											1							4
Totals.....		116	42																									
Barton—	16,747																											
July.....		29	9										1						2									2
August.....		26	9																									2
September.....		23	10											1							1	2						3
Totals.....		78	28																									
Bates—	25,869																											
July.....		46	16																		3	1						5
August.....		48	19																									7
September.....		40	12																		1	2						3
Totals.....		134	47																									
Benton—	14,881																											
July.....		34	5										1															2
August.....		22	9																									2
September.....		23	9																									4
Totals.....		79	23																									

[illegible]

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.**

Counties.	Population, 1910.....	Total b irths during the quarter.....	Total d eaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Broncho- pneumonia.....	Other diseases of respira- tory system.....	Diarrhea, and Enteritis (under 2 years of age).....	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Cole—	10,107																											
July.....		21	6								1									1								3
August.....		19	4																									1
September.....		19	10								1						2			2								2
Totals.....		59	20																									
Jefferson City—	11,050																											
July.....		23	11								2	1						1	1	1	1	1						3
August.....		1	19								2										2							3
September.....		27	18								1		2			3		1	1	1	1	1						10
Totals.....		51	48																									
Cooper—	20,311																											
July.....		30	16			1					1	1					3		1		1							4
August.....		49	15								1						2				2							7
September.....		39	20	1							2						2	2	2	2		1						7
Totals.....		118	51																									
Crawford—	13,576																											
July.....		28	7								3								1		1							2
August.....		19	8								2		1															2
September.....		46	12															1	1	1	1	2	1					7
Totals.....		93	27																									

[illegible]

[illegible]

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.**

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Howell—	21,065							2																				
July.....		37	18														1	5	1		2	1						6
August.....		29	10	1													2	1										4
September.....		41	12														1	1	1		2							6
Totals.....		107	40																									
Iron—	8,563																											
July.....		15	7									2					1	1			1	2	1			1		2
August.....		18	9									1					1											3
September.....		13	5														1	1			1							
Totals.....		46	21																									
Jackson—	35,141																											
July.....		64	38	1								2	1	3			4	3	1		1	3			2	2		15
August.....		80	40											5	2		7	4	4		4	5			5	1		5
September.....		75	25									3		2			1	4	4		1				4	2		8
Totals.....		219	103																									
Kansas City—	248,381																											
July.....		479	312	1		1				4	1	32	9	19	3		27	42	9	3	20	33	3	32	8	8		57
August.....		573	330	2						5		41	3	35	1		13	33	18	5	29	28	1	25	4	6		84
September.....		498	286	4						2		25	3	19	3	1	20	43	19	5	19	30	2	14	7	1		63
Totals.....		1,560	928																									

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.**

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Lafayette—	30,154																											
July.....		64	14							1						2				1								8
August.....		69	27													1				1								9
September.....		56	33	1								4				1			3	4								5
Totals.....		189	74																									
Lawrence—	26,583																											
July.....		66	19	1								1								2								7
August.....		51	18									2				1												7
September.....		61	22	1								2								4								8
Totals.....		178	59																									
Lewis—	15,514																											
July.....		18	1																									1
August.....		15	12	1								3																3
September.....		13	7																	3								2
Totals.....		46	20																									
Lincoln—	17,033																											
July.....		20	8									2																3
August.....		28	8									1																2
September.....		32	12																	1								4
Totals.....		80	28																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.

[illegible]

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Pulaski—	11,438																											
July.....		29	5															1		1								1
August.....		31	9															1										5
September.....		29	5	1								1								1								2
Totals.....		89	19																									
Putnam—	14,308																											
July.....		21	14										1					1	3									5
August.....		24	4															1	1									2
September.....		17	10										1								1							7
Totals.....		62	28																									
Ralls—	12,913																											
July.....		11	6										1					1										2
August.....		17	5										1															2
September.....		13	8										2					2			1							3
Totals.....		41	19																									
Randolph—	15,259																											
July.....		27	9										2															2
August.....		22	7															1										2
September.....		39	12												1			2		1								5
Totals.....		88	28																									

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.**

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Ste. Genevieve—	10,607																											
July.....		21	10														1	1				2	1					1
August.....		16	5	1																	1							3
September.....		25	11	1							1						1	1			1	1						5
Totals.....		62	26																									
St. Louis—	82,417																											
July.....		162	105	1							45		2	1			4	8	2		6	2	2					14
August.....		145	89								35	2	3				9	10	2		4	2	1		11	2		9
September.....		164	80								23		4				6	14	3		2	4	6		5	3		6
Totals.....		471	274																									
Saline—	29,448																											
July.....		64	31	1				1			2		2		1					1		2	3	1				11
August.....		62	22								2	1	1				3	2										7
September.....		52	23	2							2		3				3	3	1	1	1	2	1	2	1			4
Totals.....		178	76																									
Schuyler—	9,062																											
July.....		19	8								1		1															1
August.....		16	6														1											1
September.....		21	6								1						2				1							1
Totals.....		56	20																									

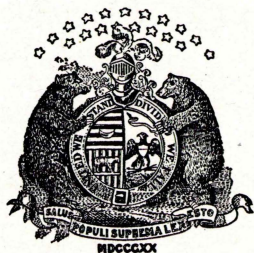
[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
SEPTEMBER 30, 1915—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																							
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system...	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....
Taney—	9,134																										
July.....		15	12	3							1		1				2			2							3
August.....		17	4																		1						4
September.....		7	7	1										1		1											3
Totals.....		39	23																								
Texas—	21,459																										
July.....		56	11								3	1	1				1										5
August.....		54	13	1							1									1							7
September.....		51	12		1				1		1		1			2					2						3
Totals.....		161	36																								
Vernon—	28,827																										
July.....		38	28								4		1			2	2	2	2		7						7
August.....		45	25	1							1		3				1	5	1		3						8
September.....		60	20							1	2			1			2	3		2	1						7
Totals.....		143	73																								
Warren—	9,123																										
July.....		8	5																	1	1						1
August.....		6																									
September.....		15	4														1	1			1		1				
Totals.....		29	9																								

[illegible]

MISSOURI STATE BOARD OF HEALTH



QUARTERLY BULLETIN

NEW SERIES

VOL. 5.

OCTOBER-DECEMBER, 1915.

No. 4.

MEMBERS OF THE BOARD

F. H. Matthews, M. D., Pres.. Liberty
G. O. Cuppaidge, M. D., Vice-Pres....
.....Moberly
J. A. B. Adcock, M. D., Sec'y.....
.....Jefferson City

T. A. Son.....Bonne Terre
R. L. Wills, M. D.....Neosho
M. R. Hughes....Met. Bldg., St. Louis
T. H. Wilcoxon, M. D., Bowling Green

Dr. George H. Jones, State Bacteriologist, Jefferson City.
C. J. Kaiser, Statistician, Jefferson City.

CONTENTS

	Pages		Pages
Baby Week.....	3-4	United States Public Health Service..	12-14
Care of the Baby.....	4-5	U. S. Dept. of Labor—Children's Bu-	
Vital Statistics Notes.....	6	reau.....	14
Minutes of Board Meeting.....	6-7	Summary of Annual Report of Surgeon-	
Communication from a Missouri School-		General U. S. Public Health Service..	15-16
teacher.....	7-9	Report of State Bacteriologist.....	17-19
A Mosquito-free Lake.....	10-12	Vital Statistics.....	20-44



BULLETIN OF THE
Missouri State Board of Health
NEW SERIES

VOL. 5.

OCTOBER-DECEMBER.

NO. 4

Baby Week

National Baby Week has been set for March 4-11. This is being observed throughout the United States in a great many of the cities, towns and country of each state. It is something comparatively new; started some two or three years ago, and is growing rapidly, as the importance of such a day is proving to be quite beneficial to the proper care and developement of children.

The parents and those in charge of children will get valuable instruction at this time from competent persons upon child hygiene and also upon their development and training; and will give the parents and those in charge of children the proper instructions in regard to the proper food for a child.

In addition to this in most places they will have competent physicians who will take the child's measurements and weight and note any physical defects that the child may have and notify the parents of the same, so that this defect, whatever it may be, may be corrected if possible.

There are more than twenty million school children in the United States. Of this number there are estimated to be eight million that have defective eyes. Another eight million have nose, throat and ear troubles. The larger per cent of these troubles can be cured: nearly all of them can be at least materially benefited; so it is very important that parents take a lively interest in this matter and know about them as soon as possible.

A number of the cities and towns throughout Missouri will observe this week. While our Board has desired to get out proper literature to send throughout the state, yet for lack of

funds we will not be able to participate in this, this year. The members of the State Board of Health went to considerable trouble to get material for a booklet to send to the schools throughout the state for instruction in school hygiene, but our appropriation was held up in a way that we were not permitted to continue this enterprise, which we regret very much.

CARE OF THE BABY

Weight and Weighing the Baby.

The baby's weight is perhaps the best index the mother has of his condition. The average weights of babies of given ages are now pretty well-established, and a weight noticeably lower than the average indicates a lack of development due either to deficient diet, or to illness, while an excess of fat may point to improper feeding. If the baby's weight either remains stationary for any considerable time, or begins to fall off, it is always a sign that something is wrong; and the mother should seek the help of a good doctor without delay.

The average girl weighs 7 pounds at birth, while boys average half a pound heavier.

During the first four days the baby may lose from one or two ounces to a pound while waiting for the mother's milk to be established, but as soon as he begins to nurse regularly he should quickly regain this loss. During the first month he should gain about three-quarters of an ounce each day; then up to the sixth month, from four to eight ounces a week, and from the sixth to the twelfth month two to four ounces a week.

At three months the average baby weighs from twelve to fourteen pounds; at six months, fifteen to sixteen pounds; at nine months, seventeen to eighteen pounds; and at one year, twenty to twenty-two pounds. The baby thus usually doubles his weight at five or six months, and at the end of his first year weighs three times as much as at birth. Most babies do not gain quite steadily, week by week. During short periods, owing to excessive heat, when the food is reduced, a baby may show no gain, and may even fall off a little. This condition should be temporary and he ought to begin to gain as soon as the disturbance subsides.

Bottle-fed infants do not gain as rapidly during the first months as do breast-fed babies, but after the ninth month they

are apt to gain more steadily because they do not lose weight as breast-fed babies usually do at the time of weaning.

A very fat baby is not to be desired. Although mothers are prone to believe that a fat baby is a healthy one, this is not necessarily true. An exclusive diet of certain of the proprietary infant foods, consisting largely of sugar or of starch, is very apt to produce excessive fat, and give a false impression of abounding health, since bones and muscles may thus be deprived of their proper nourishment. Overfat babies are very uncomfortable in the summer from prickly heat and other ills.

A healthy baby has a well-rounded body, without wads and cushions of fat, or pendulous cheeks and pudgy legs. He has springy muscles, and is alert, active and full of life and motion.

In order that the mother may be informed as to the baby's progress, he should be weighed at regular intervals throughout at least the first year. For the first week or longer, he should be weighed every day; during the first six months, once a week; and later once in two weeks.

Breast-fed babies may be weighed just before and just after a nursing to determine how much milk they are getting, and to find out whether or not they need supplementary feeding. They should be weighed in exactly the same clothing both times, and to determine the daily gain, at the same hour each day.

The best scales are ordinary platform balance scales such as are used in grocery stores. A special basket or pan which fits on the platform, and which will hold the baby comfortable is desirable. Spring scales are less accurate but are cheaper, and are better than no scales at all. Most country households have enough general use for a good scale, so that such a purchase will not be an extravagance. Many city mothers have the advantage of being able to go to an infant welfare station where the baby may be weighed as often as desirable. In these cases it is easy to keep a careful record of the baby's growth.

The Children's Bureau has published a bulletin called *Infant Care*, which contains directions for weighing the baby and also a chart for recording the weight. This publication is sent free to all who ask for it, addressing the Chief of the Children's Bureau, U. S. Department of Labor, Washington, D. C.

Vital Statistics Notes

The law requires that all physicians and midwives shall report each birth they attend, to the local registrar of the district in which the birth occurred within ten days after the birth of the child.

Neglect or refusal to do so is punishable by fine.

We have been trying it, by a number of prosecutions, and can say the law works fine.

A hint to the wise is sufficient.

More than sixteen hundred certified copies of birth and death certificates were issued from this office in 1915. These certificates were used in various claims, being prima facie evidence in all our courts of facts contained therein. Hence the importance of keeping the record of every birth and death.

Each local registrar should see to it that every birth and death certificate is properly made out before sending same in to this office, the central bureau, for upon him we must depend.

Where the child is not named there is no way to compel the parents to name it, but upon the tenth day of each month the local registrar must send the original certificate in to the central office; even if the child is not named. A supplementary slip is furnished the local registrar to send to the parents for the name of the child, as soon as named, to be returned to him. This slip, when returned to him with the child's name, is to be sent in to the central office.

Minutes of Board Meeting

The State Board of Health of Missouri met in the Secretary's office in Jefferson City, January 14 and 15, 1916, and passed upon the grades of those who took the examination for license in St. Louis, Mo., December 13, 14 and 15, 1915, with the result that the following were awarded licenses to practice medicine, surgery and midwifery:

Beatty, Ernest Gaston
Berger, Harry Calvin
Booth, Herbert Radcliffe

Broome, George Wiley
Edwards, Joseph Madison
Errante, Felice

Haven, William Walter	Wilson, Roy Edward
Hirschberg, Samuel B.	Forstot, Samuel
Howard, H. D.	
Karabascheff, Christo Iotoff	(Midwife license only)
Martin, Floyd August	Guss, Mrs. Anna
Pack, Seba Egbert	Plucinski, Mrs. J.
Spence, Elbert LaFayette	Sake, Mrs. Wm.
Schreiber, Louis Walter	Six, Minnie C.
Schwarz, Frank Joseph	Baumann, Mrs. Elizabeth

At the same time the Board passed upon the evidence of the trials of the four doctors who were before it in St. Louis on December 16, 1915, with the following results:

Dr. C. C. Addoms was adjudged guilty, but sentence held in abeyance pending good behavior.

Dr. H. L. Fichtenkam's license was revoked for a period of ten years for unprofessional and dishonorable conduct.

Dr. Wm. Pierce's license was revoked for a period of ten years for unprofessional and dishonorable conduct.

Dr. Gustav T. Wieland's license was revoked for a period of ten years for unprofessional and dishonorable conduct.

Communication from a Missouri School-teacher,

"To the Missouri State Board of Health:

I am teaching school in a little country town and have four pupils from one family who have the old-fashioned itch, so the doctor of Missouri told me. The two little boys have it all over them. I asked about it at the beginning of school six weeks ago and was told that it was poison from some plant. But I kept noticing when the room was too warm or when taking violent exercise it made them uneasy and uncomfortable. So I pinned them down very closely and they owned up to having had it for over a year. Said they had gotten medicine at the drug store but it did not help them. I think perhaps the parents left it for the children to see to and they did not use it often enough or perhaps do not bathe often. Anyway they have it.

I reported it to the school board so that they might look up the law. One member read it and never sent me any word, but I succeeded in "fishing it out" of his son that the law says for them to withdraw. The boy says, "Father never told me to tell you a word." I went to the other director's son and met with

the same response. You know when I send them home there will be a howl and the directors will no doubt tell the children or parents that they (the directors) are in no way to blame.

This is my first year in this state and I have always been used to things like this being pushed. I never have seen one of the members of the board.

We have a pretty good schoolhouse, but the toilets are fearful. The girls' toilet is over three feet high off the ground, resting on the tops of three or four posts with nothing around the base so that the refuse is dragged out by something nearly every night. The boys' toilet has no shield and while in use one of the boys has to stand up in front where a board is knocked off. There are no vaults. The girls' toilet is over an old well so the children tell me and has been for years. It is all right on top of the ground on these old crooked pillars that partly support it. It fell over just before school begun and it was dragged up on top of those posts again. I am afraid to go into it. The floor is ready to fall through. I asked that they be seen to, but my answer was that they owed \$200 on the schoolhouse yet and couldn't make any improvements.

In September, when it rained so much the water ran from underneath all in front of the toilet that I took some of the rails from a rail fence to keep up out of the filthy water. I wrote the county superintendent. She never answered but in about three or four weeks she came out and looked at them and said, "How are they to build new ones with no money?" You know that they could take it off these stilts and set it on the ground or several could dig vaults and donate the work.

The schoolhouse was not cleaned, so the pupils said, and I did it. Nearly every one owns their own farms and seems to be doing well. We had a pie supper on Saturday night to make some money (one member didn't want us to have it because it was so hard on the schoolhouse) and indeed two or three coarse boys broke down the steps to the girls' toilet and smeared the floor with filth.

Please write me your advice anyway. I hope you will be able to shake the board up a little about sanitation. We have nothing to keep down the dust when sweeping, but plenty of flies."

Answer.

Dear Miss:

I have just received your letter regarding the sanitary conditions of your school and its surroundings. From the conditions as you describe them I think the most illiterate, ignorant person in Missouri would condemn those closets as being insanitary; and as one of the privies is placed over a well this may be a source of great danger, as the excretions may find way through a fissure or outlet into some stream which may flow into another well or spring, that water might be used from, and would develop typhoid or other enteric disease caused from the micro-organisms from this privy setting over the well. And the numerous flies you speak of I should think, being born and bred in those closets, would no doubt carry filth and germs from the closets into your schoolhouse and there deposit the same on fruits and other food that may be exposed.

I do not think the patrons of your school are ignorant people. I cannot conceive of any class of people being this ignorant in ————county, but I will assume that they are busy making money and think but little of the future health of their families. I think if you will call their attention to the danger that these filthy closets are to their children, that an epidemic of disease is liable to occur at any time from such cause, that they will investigate and remove these closets and put up sanitary privies.

Any mechanic can advise them how to construct such privies and when properly constructed no flies can enter them, and thus removes this breeding place. Remember, flies are filth and germ carriers and disease promoters: Every one is a source of danger, especially when hatched out of privies where dangerous germs abide.

So I advise that you put this matter up to your directors again and see if they want to poison their children or if they want every safeguard thrown around them when away from home.

J. B. A.

"A Mosquito-free Lake."

Dr. H. L. Reid,

January 14, 1916.

Charleston, Mo.

Dear Doctor—In the January number of the State Medical Journal is an article written by Dr. Geo. Homan of St. Louis, on Henson's Lake in Mississippi county, written from information that the doctor has from Dr. Geo. G. Robinson, that it is a tradition among the people of Mississippi county and surrounding territory that this lake is free from mosquitoes. Dr. Robinson seems to verify the prevailing opinion by having visited the lake during the yellow fever epidemic in 1879.

Now as you have lived in Mississippi county a long time and no doubt have knowledge of this condition, and if it is true that this lake is free from mosquitoes do you have any idea of the cause. Is there anything peculiar about the water or is it the game fish that destroy the larva, or what is your philosophy of the reason that there are no mosquitoes in this lake? I am asking you for an explanation of this that we may have the same in our next bulletin. If it is true that this lake is free from mosquitoes, it is worthy of a thorough investigation; and the cause that makes this lake free from mosquitoes, if known it would lead to freeing other lakes and stagnant water from the same pest.

Yours very truly,

Secretary.

"Henson's Lake Not Mosquito-free."

January 20, 1916.

Dr. J. A. B. Adcock,

Sec'y State Board of Health,

Jefferson City, Mo.

Dear Doctor—Your letter of recent date regarding Henson lake, this county, duly received and its contents carefully noted. Also, I have read the article in the January number of the State Medical Journal, under the caption of "A Mosquito-free Lake," by Dr. George Homan of St. Louis.

The information given in this article, if it were authentic, is very interesting. However, I regret to say that, in the judgment of numerous persons here who should know the facts, this information, with its possible conclusions, is unwarranted and founded on insufficient testimony.

Henson lake is on the Belmont branch of the Iron Mountain Railroad in Mississippi county, seven miles east of Charleston. Doctor Homan well describes it as a "detached bayou, some miles distant from other waters," etc. It is a very long, narrow body of water—perhaps one and one-half miles long by one hundred to one hundred and fifty feet in width. Certain parts of it attain great depth. The lake proper becomes more shallow toward the terminals, and shades off into marshy cypress swamps. Along the main body of the lake the banks are high, which furnished good camping spots, and the waters being clear, cool and deep—and well shaded—were ideal for rowing and fishing. Many people of Charleston and the outlying country were wont to spend days "camping out" here during the fishing season each year. (All this was before our lakes, including Henson lake, were drained by the numerous dredge canals; two of these canals now intersecting Old Henson lake, and all but obliterating it.) The waters in this lake were so clear that the lake was known, traditionally, as "Clear Lake."

I have consulted many of the oldest citizens and erstwhile anglers, who have been familiar with the lake for the past half century. One of them, now a prominent physician of Charleston, probably the oldest native born physician in the county, was born and reared within two miles of Henson lake and learned to swim in that body of water; and he, no doubt, was disporting himself with the water nymphs in the bosom of "Old Henson" at the time the St. Louis physician, Dr. Robert, was doing quarantine duty at Belmont in the late seventies; however, the doctor has no recollection of the incident of Dr. Robert's visit to the lake. I, myself, in years past, have spent more than one night at "Henson" and have a fair recollection of the experience. The consensus of opinion is that during the mosquito season mosquitoes were abundant at Henson lake. No one here has ever heard of any "tradition" that it, or the neighborhood thereabout, was "mosquito free." Quite to the contrary, all, of authority, testify to the fact that, at rare intervals, the mosquitoes have made life most miserable—sleepless nights more sleepless.

It is the general impression here that these mosquitoes were bred in the stagnant marshes and swamps which, at that time, abounded in the immediate vicinity of the lake.

While this lake was an inland body of water, except during overflows, still the waters in the lake proper were not stagnant,

but clear, cool and deep, and it is the impression, generally, that many springs fed into the sides and bottom of the lake.

It is true that during some seasons Henson and other local lakes are peculiarly free of mosquitoes. The explanation is simply this—that hot, dry weather is antagonistic to the mosquito. After a few weeks of drouth, the stagnant marshes and pools are evaporated, leaving the main bodies of water, which are patronized liberally by man and domestic animals, populated by many fish and fed copiously by cooling springs. No doubt it was during or following just such a season that Dr. Robert visited the lake back in '79. If he had made a second visit, or a succession of visits, doubtless he would have found mosquitoes in sufficient quantities to dispel the doubts and (dis)please the finer sensibilities of the most fastidious or unsophisticated.

To reiterate: I can find no one who has ever heard of any “local tradition” of this “Mosquito-free Lake.” My informants have usually indicated that the contrary was true, frequently narrating their personal experiences in the years past. For scientific and sanitary reasons, it is to be regretted that the implied information in the query of Dr. Homan has, in this instance, no reasonable foundation in fact; however, I feel that he is justly entitled to the commendation of the profession for this investigative trait of his character, and, with his well-known scientific attainments and his past achievements in the scientific field, may we reasonably hope that he be largely instrumental in the present onslaught on the life and habitat of the omnipresent mosquito.

In conclusion, will say that Mississippi county and South-east Missouri are making marked progress in the eradication of the mosquito, with our hundreds of miles of dredge canals, drainage ditches, and the tiling of the swamps and low lands. May the good work proceed.

Very truly yours,

H. L. Reid, M. D.

United States Public Health Service.

Great things have small beginnings. A spectacle maker, Jan Leippersheim by name, living in Holland, invented a crude magnifying glass in 1608. Anton von Leuwenhoek, born in Delft, this day 1632, improved this clumsy toy and evolved a compound microscope which has become the most valuable san-

itary tool yet devised by man. That first microscope was as far removed from the high-powered instrument of today as is the modern American from the original caveman. Yet by this faulty means, Leuwenhoek, naturalist, physician and botanist, discovered certain minute bodies which he called "little animals." He made drawings of these and today we know them for those useful friends and malignant enemies of man—bacteria.

We spend our days surrounded by another world, a living world of countless billions, invisible to the naked eye, silent, tireless, destroying the living, consuming the dead, useful in the sciences and arts, yet often followed by a train of sickness, suffering and death. A curious paradox this, yet bacteria are at once the greatest friends and the fiercest foes of every living thing. Not animals, as Leuwenhoek thought, but vegetables. Bacteria consist of two classes, those which prey on living things and those which reduce to their original minerals, fluids and gases, every dead thing which they attack. They are of various shapes, round like marbles or straight like little sticks. They grow in clusters, chains, and in pairs. They are ubiquitous. The dusty air, the earth and its waters, the interior of animals and plants all contain them. They cause the fermentation of foods, they make cheese, they produce disease and some of them when killed and injected into an animal protect it against the very disease which they would have produced if living. Many of them live as harmless creatures in the body of an animal for years, only to kill their host when the opportunity presents. Their study has given birth to a science—bacteriology—one of the foundation stones of public health.

Their mere presence does not necessarily produce disease. Recalling the parable of the sower, some bacteria fall by the wayside, some fall upon stony places, and some fall in good ground and bring forth the fruit of suffering, perhaps of death. A normal, temperate life, free alike from the gluttony of idleness or overwork, the sound mind in the sound body, a cheerful, normal environment, these form the stony places in which bacteria take no root. The depraved appetites of mind and body, the dark and sordid atmosphere of penury, the nerve racking and strength undermining trades, these prepare the good ground.

The great weapon against bacteria is cleanliness. The mastery over premature death lies to a great measure in our own hands. Clean persons, clean cities, clean workshops and clean lives are the makers of public health. The United States Public

Health Service and other sanitary bodies of this country are gradually bringing these facts home to the general public. In this way cleanliness is becoming more general, and the span of life in America is gradually being lengthened. All of which is largely due to the microscope.

U. S. Department of Labor—Children's Bureau, Washington.

1916 is Baby Year. The facts about American babies, the needs of American babies, and America's responsibility to her babies will this year be known as never before, because the first week in March will be Baby Week throughout the country.

More than 400 communities representing every State in the Union are already laying their plans for Baby Week, according to the Children's Bureau of the U. S. Department of Labor, in order that during those seven days the needs of the babies may be so presented that all the parents in those communities will learn a little better how to care for their babies, and all the citizens will realize that they have a special obligation to safeguard the conditions surrounding babies. And it is confidently believed by those who are interested in this nation-wide Baby Week that the remainder of the year will be marked by a strengthening of all community activities for saving babies' lives and giving them a better chance to grow to a healthy maturity.

The Baby Week idea originated in Chicago not quite two years ago. Then New York had a Baby Week, and Pittsburg, and other cities. Such practical benefit has in each case resulted that the General Federation of Women's Clubs has undertaken to promote this nation-wide observance. State health officials and national organizations interested in public health and child welfare have taken up the plan and in various ways are giving it not only their sanction but their active co-operation. The extension divisions of the state universities have promised special assistance in interesting and helping Baby Weeks in rural communities.

The Federal Children's Bureau believes that Baby Week will give more parents a chance to learn the accepted principles of infant care, and will awaken every American to his responsibility for the deaths of the three hundred thousand babies who, according to the Census estimates, die every year before they are twelve months old.

Summary of the Annual Report of the Surgeon General of the United States Public Health Service.

The annual report of the Surgeon General of the United States Public Health Service records the largest amount of work performed in the history of that organization. Since the passage of the law of 1912 the public health functions of the Service have materially broadened, thereby increasing greatly its usefulness to the American people. Throughout the report the economic importance of disease prevention is made apparent to the reader.

Perhaps the most important achievement of the year was the discovery that pellagra is a deprivation disease, resulting from a faulty diet containing an excess of carbohydrates. While the final experiments which led to this discovery have only recently been completed, the conclusion itself is the culmination of investigations extending over a period of seven years. The work has consisted of epidemiological field studies, actual feeding experiments conducted at numerous places in Georgia and Mississippi, and experimental research at Spartanburg, South Carolina, and other places.

A new national quarantine station was opened at Galveston, Texas, and the control of the Boston station was transferred to the Public Health Service. A great reduction in immigration has been observed during the year, with a corresponding increase in the number of aliens certified. At the Port of New York the percentage has risen from 2.29, previous to the development of the European conflict, to 5.37 since that time; this increase largely being due to the fact that with the decreased immigration more time can be devoted to the examination. The number of cases treated at Marine Hospitals and relief stations exceeded 55,000, 15,000 of which were hospital patients, a considerable increase over previous years. The Coast Guard Cutter "Androskoggin" was fitted out as a hospital ship and now affords relief to deep sea fishermen on the Banks of Newfoundland.

On the occurrence of plague at New Orleans, the first outbreak upon the Gulf seaboard, the state and local health authorities requested the Public Health Service to take charge of the situation. Extensive rat-proofing and other antiplague measures were undertaken, resulting in the eradication of the disease from among human beings, and the practical extermination of the rodent infection.

Great reduction in the incidence of malaria was obtained in localities where surveys were conducted. Drainage projects, rice culture studies and the conditions surrounding the impounding of water for power purposes were investigated in order to eradicate as far as possible the disease in these areas. Scientific investigations of malarial infection showed that in the latitude of this country the most important agent in carrying the infection through the winter season is man, and not the infected, hibernating *Anopheles* mosquitoes, as was previously supposed. From the standpoint of prevention this is a discovery of considerable value.

Studies of occupational diseases and industrial hygiene were instituted at several places during the year. A survey of the industries of Cincinnati was made to determine the cause of the prevalence of tuberculosis among industrial workers. The investigations relating to the migration of persons suffering from tuberculosis were completed.

Upon the request of the health authorities of five states, the organization and operations of the respective boards of health were studied and recommendations advanced for improvement in the powers and duties of these bodies. The health organizations of several cities were likewise investigated.

Investigations of the pollution of streams and the examination of shellfish were also conducted.

Trachoma was combated in the Appalachian Mountains, where it is most prevalent, over 12,000 cases being treated. Surveys in certain states during the year showed that the disease is not an uncommon infection.

Rural sanitation work was conducted in six different states and everywhere resulted in the reduction of typhoid and other communicable diseases.

Public health laboratories for the prevention of the interstate spread of disease were established at Chicago, Seattle, and numerous other railway centers.

Additional duties have been imposed upon the Service by extension of relief benefits to the newly organized Coast Guard and the physical examination of seamen applying for the rating of "able seaman." For this reason, and because of the greatly increased health functions of the Service, an increase in the commissioned personnel is recommended. An additional building for the Hygienic Laboratory and the establishment of a National Leprosarium for the proper segregation and care of cases of leprosy are also recommended.

REPORT OF STATE BACTERIOLOGIST.

The following table summarizes the work of the laboratory for the fourth quarter of 1915.

	Tuberculosis (sputum).....	Typhoid (Widal).	Diphtheria.....	Malaria.....	Gonococci infections.....	Water (Coll)....	Rabies.....	Tuberculosis (not sputum) ..	Miscellaneous...	Total.....
October.....	203	180	156	14	10	39	1	4	18	625
November.....	164	114	165	9	10	10	0	6	16	494
December.....	223	58	78	5	8	17	2	3	10	404
Totals....	590	352	399	28	28	66	3	13	44	1523
Grand total..										

Tuberculosis (sputum) per cent positive.....	26.2
Typhoid, per cent positive.....	34.6
Diphtheria, per cent positive.....	42.1

The Examinations Conducted by and Preparation of Specimens for Sending to the Laboratory.

Sputum.—Specimens of sputum will be examined only when received in containers furnished by the State Board of Health for that purpose. These outfits may be obtained by addressing the State Bacteriologist, Jefferson City, Mo. Full directions accompany each outfit.

Blood.—It is impossible to examine a single specimen of blood for both typhoid and malaria. For the Widal test for typhoid, the blood is best obtained by pricking the lobe of the ear with a flat or a three-cornered needle, or the point of a knife. The ear should first be rubbed with cotton and alcohol, then dried, and the needle should be sterile. Two or three good-sized drops should be collected on filter paper provided by the laboratory for this purpose.

For malaria the blood is obtained in the same way, but must be spread in a thin, even smear on a glass microscope slide. This is done as follows: A small drop of blood is received onto the slide near one end by touching the slide to the blood as it hangs

from the lobe of the ear. The slide is then laid on a firm, flat surface, and the end of a second slide, held at an angle of about thirty degrees with the first slide and touching it, is brought into contact with the drop of blood. In two or three seconds the blood will have run across the slide at the point of contact. Then the second slide is pushed along on the first with a moderate speed, so as to leave a thin, even smear on the surface of the first slide. A second smear may be made in a similar manner on the other slide. Caution: Have slides perfectly clean, handle only by the edges and work rapidly. Allow them to dry in the air without heat.

Blood should never be placed between slides and sent to the laboratory.

Swabs for Diphtheria.—The regulation tube and mailing case, to be obtained from the laboratory, should be used for this purpose. Full directions accompany each outfit.

Water.—Specimens of water are examined for the absence or presence of colon bacilli, an index to sewage pollution, and for the total number of bacteria.

For this it is imperative that all samples be iced from the time of taking until they reach the laboratory. For this purpose special containers may be obtained from the laboratory, express charges to be paid both ways by sender of specimens.

Pus.—Pus, to be examined for gonococci should be sent on a slide prepared as follows: A small amount—much less than a drop—should be mixed on the slide with a small drop of water and thinly spread over an area a half inch or more in diameter, and allowed to dry.

In taking a specimen of leucorrhœal discharge the precaution of first giving a douche should always be taken, in order to remove as many as possible of the other bacteria present. The pus may then be expressed from the urethra, or obtained from the cervix by means of a speculum, and the slide properly prepared. Unless this is done, the great numbers of bacteria found normally in the vaginal secretion will so obscure the field as to make a satisfactory examination impossible.

An initial or number may accompany the specimen in place of the patient's name.

Do not press slides together.

Rabies.—Unless the animal shows symptoms of rabies, it should not be killed, but should be held for observation, in which event, if positive, death will ensue in a very few days, in ample

time to begin treatment of the patient. Do not kill the animal by a blow or shot in the head, as this may make a proper examination impossible. The head only of the animal should be sent, and that at the earliest possible moment. The head is to be placed in a tin bucket with a tightly fitting cover, which bucket is to be placed in a larger wooden or iron bucket and surrounded by sawdust and iced. The heads of animals freshly killed may be sprinkled with salt, packed in wet sawdust in a strong wooden box and expressed.

Urine.—Specimens of urine are examined for tubercle bacilli in suspected cases of genito-urinary tuberculosis.

In sending specimens of urine to be examined for tubercle bacilli, the following points should be carefully noted:

1. The specimen should be obtained by catheter, and drawn directly into a sterile bottle.
2. It should be stated upon the card accompanying the specimen that it was obtained by catheter.
3. Two or four ounces of urine should be sent and no preservative should be used.

Feces.—Feces will be examined for tubercle bacilli, and for the ova of intestinal parasites (hookworm).

There is kept on hand a supply of typhoid vaccine for immunization which is supplied to physicians upon request. When writing for the vaccine, kindly state the number of patients to be immunized, and enclose ten cents in stamps to cover postage.

The anti-rabic treatment as prepared in the laboratories of the American Public Health Service will be administered free of charge to indigent persons of the state, at this laboratory only. The treatment requires twenty-one days, and should be begun within fourteen days from the time the patient was bitten.

When the treatment is desired the State Bacteriologist should be notified by wire at least three days before the patient arrives in Jefferson City, thus allowing ample time to secure the individual treatment from the laboratory at Washington, D. C.

VITAL STATISTICS.

Summary Showing Comparison of Important Causes of Deaths and Registration of Births During October, November and December, 1915.

Statistics compiled for the fourth quarter of 1915, October, November and December, show there was a total of 10,437 deaths. Of this number 5,701 were males; 3,835 females; 9,536 whites, 901 blacks. The month of December showed the greatest number of deaths, 4,332 and October, the lowest, 3,028.

Pneumonia heads the list of cause of death for the quarter with 1,247.

There were 1,201 deaths from disease of the heart. Tuberculosis (all forms), 1,164; other diseases of nervous system, 906; acute nephritis and Bright's disease, 908; cancer, 534; accidents, 445; diarrhoea and enteritis (under 2 years of age), 411; diphtheria and croup, 316; other disease of respiratory system, 272, typhoid fever, 180; influenza, 148; suicides, 144; diabetes, 95; puerperal state, 79; homicides, 67; whooping cough, 39; scarlet fever, 16; epidemic cerebro-spinal meningitis, 10; acute anterior poliomyelitis, 9; measles, 4; smallpox, 1.

There were 17,662 births reported as having occurred during October, November and December, of which 9,088 were males, 8,574, females; 17,119, whites, 543, blacks.

It will be noted from the foregoing that there were 7,225 more births than deaths during the quarter.

C. J. KAISER,
Chief Statistician.

Table Showing Births Filed With the Central Bureau of Vital Statistics During Months of October, November and December, 1915, by Sex and Color (Stillbirths Excluded).

Month.	Total.	Male.		Female.	
		White.	Black.	White.	Black.
October.....	6,170	3,073	110	2,886	101
November.....	5,451	2,701	71	2,597	82
December.....	6,041	3,057	76	2,805	103
Totals.....	17,662	8,831	257	8,288	286
Totals by sex.....			9088		8574

Table Showing Deaths from Twenty-four Important Causes Filed With Central Bureau of Vital Statistics During October, November and December, 1915 (Stillbirths Excluded).

CAUSES.	October	November	December	Total.
Typhoid Fever.....	71	65	44	180
Smallpox.....		1		1
Measles.....	1	1	2	4
Scarlet Fever.....	5	6	5	16
Whooping Cough.....	11	13	15	39
Diphtheria and Croup.....	93	124	99	316
Influenza.....	5	9	134	148
Tuberculosis of Lungs.....	263	297	388	948
Other forms of Tuberculosis.....	38	30	48	116
Cancer.....	176	169	189	534
Diabetes.....	31	30	34	95
Epidemic Cerebrospinal Meningitis.....	2	5	3	10
Acute Anterior Poliomyelitis.....	1	4	4	9
Other Diseases of the Nervous System.....	277	280	349	906
Diseases of Heart and Circulatory System.....	365	366	470	1201
Pneumonia and Bronchopneumonia.....	185	241	821	1247
Other Diseases of Respiratory System.....	60	69	143	272
Diarrhoea and Enteritis (under 2 years of age)...	163	103	145	411
Acute Nephritis and Bright's Disease.....	264	289	355	908
The Puerperal State.....	31	23	25	79
Accidents.....	137	163	145	445
Suicides.....	34	60	50	144
Homicides.....	18	16	33	67
Other Causes.....	797	713	831	2,341
Totals.....	3,028	3,077	4,332	10,437

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.

Counties.	Important causes of death.				Total deaths during the quarter.	Total births during the quarter.	Population, 1910.
	Other causes.	Homicides.	Suicides.	Accidents.			
Christian — October..... November..... December..... Totals.....	The puerperal state.....	1	1	1	3	7	15,832
	Acute Nephritis and Bright's Disease.....	1	1	1	3	11	
	Diarrhœa and Enteritis (under 2 years of age).....	1	1	1	3	23	
	Other diseases of respiratory system.....	1	1	1	3	6	
	Pneumonia, Broncho-pneumonia.....	1	1	1	3	24	
	Diseases of heart and circulatory system.....	1	1	1	3		
	Other diseases of the nervous system.....	1	1	1	3		
	Acute Anterior Poliomyelitis.....	1	1	1	3		
	Epidemic Cerebrospinal Meningitis.....	1	1	1	3		
	Diabetes.....	1	1	1	3		
Clark — October..... November..... December..... Totals.....	Cancer.....	1	1	1	3	8	12,811
	Other forms of Tuberculosis.....	1	1	1	3	13	
	Tuberculosis of the lungs.....	1	1	1	3	21	
	Influenza.....	1	1	1	3	10	
	Diphtheria and Croup.....	1	1	1	3	14	
	Whooping Cough.....	1	1	1	3	10	
	Scarlet Fever.....	1	1	1	3	14	
	Measles.....	1	1	1	3	10	
	Smallpox.....	1	1	1	3	10	
	Typhoid Fever.....	1	1	1	3	10	
Clay — October..... November..... December..... Totals.....	Other causes.....	1	1	1	3	31	20,302
	Homicides.....	1	1	1	3	42	
	Suicides.....	1	1	1	3	24	
	Accidents.....	1	1	1	3	24	
	The puerperal state.....	1	1	1	3	29	
	Acute Nephritis and Bright's Disease.....	1	1	1	3	40	
	Diarrhœa and Enteritis (under 2 years of age).....	1	1	1	3	106	
	Other diseases of respiratory system.....	1	1	1	3	83	
	Pneumonia, Broncho-pneumonia.....	1	1	1	3		
	Diseases of heart and circulatory system.....	1	1	1	3		
Clinton — October..... November..... December..... Totals.....	Other diseases of the nervous system.....	1	1	1	3	16	15,297
	Acute Anterior Poliomyelitis.....	1	1	1	3	34	
	Epidemic Cerebrospinal Meningitis.....	1	1	1	3	36	
	Diabetes.....	1	1	1	3	12	
	Cancer.....	1	1	1	3	20	
	Other forms of Tuberculosis.....	1	1	1	3	18	
	Tuberculosis of the lungs.....	1	1	1	3	88	
	Influenza.....	1	1	1	3		
	Diphtheria and Croup.....	1	1	1	3		
	Whooping Cough.....	1	1	1	3		

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.**

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).	Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
DeKalb—	12,531																											
October.....		25	9	1							1							1										5
November.....		3	8									1																3
December.....		28	13							2							6		1									2
Totals.....		56	30																									
Dent—	13,245																											
October.....		13	3																									2
November.....		29	6							2							1	1										2
December.....		26	5	1								1							2									1
Totals.....		68	14																									
Douglas—	16,664																											
October.....		37	7							2		1					1											2
November.....		31	8	1				1		1			1	1								1		1				
December.....		37	16	3				1		2	2					4	1	1										1
Totals.....		105	31																									
Dunkin—	30,328																											
October.....		94	45	1				1	2			1	1				1	2	1		4		1		1	2		25
November.....		86	62	7				4	3				2						6									26
December.....		110	59	4				4	3	2		3					1	2	1	14	2							20
Totals.....		290	166																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.

[illegible]

**BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.**

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, B r o n c h o- pneumonia.....	Other diseases of respira- tory system.....	Diarrhoea and Enteritis (under 2 years of age).	Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Jefferson—	27,878																											
October.....		47	26	1			1		3		2		2				2	2	2		1				4			8
November.....		40	14	1							1	1					1	1	3		1			1			3	
December.....		41	20								2		3				1	2	4								6	
Totals.....		128	60																									
Johnson—	26,297																											
October.....		61	22	2							2		1				2	2	1						1		10	
November.....		43	17								1		2				3	2	2		1		2		1		6	
December.....		31	30							1	2		1				2	4	9			4		1			6	
Totals.....		135	69																									
Knox—	12,403																											
October.....		18	6															2	2								4	
November.....		21	10								1		1					1	1		1			1			3	
December.....		18	8							2			2				2	1	1								1	
Totals.....		57	24																									
Laclede—	17,363																											
October.....		36	14	1					2		1							1	1		2	1		1			4	
November.....		23	5																								5	
December.....		28	7	1							2							1	1								2	
Totals.....		87	26																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of t h e lungs.....	Other forms of Tubercu- losis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomy- elitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, B r o n c h o- pneumonia.....	Other diseases of respira- tory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Macon—	30,868																											
October.....		70	21	1					1		2	2				1	3	3	2	1	1							6
November.....		80	28								3	1				4	3	4	4	1								7
December.....		49	38						1		1	3				4	4	4	3	1								14
Totals.....		199	87									3																
Madison—	11,273																											
October.....		29	17						2		1	1					4	1	1	3	1							3
November.....		21	10								2							1	1	1								4
December.....		22	11														1	2	3		2							2
Totals.....		72	38																									
Maries—	10,088																											
October.....		19	6	1		1			2							1					1							2
November.....		18	5	1							1	1																1
December.....		12	7													1		2	1	1								
Totals.....		49	18																									
Marion—	12,231																											
October.....		14	5														2				1							1
November.....		14	11								1	1							1	1								5
December.....		12	11													1	1	1	2		1							4
Totals.....		40	27																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system.....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhea, and Enteritis (under 2 years of age).....	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Morgan—	12,863																											
October.....		23	4																			1						1
November.....		13	10																									5
December.....		24	7																									3
Totals.....		60	21																									
New Madrid—	19,488																											
October.....		42	14																									5
November.....		32	17																									3
December.....		63	28																									11
Totals.....		137	59																									
Newton—	27,136																											
October.....		46	9		1																							6
November.....		41	17																									7
December.....		45	19																									4
Totals.....		132	45																									
Nodaway—	28,833																											
October.....		60	8																									1
November.....		53	24																									6
December.....		52	32																									3
Totals.....		165	64																									

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING.
DECEMBER 31, 1915—Continued.

Counties.	Population, 1910.	Total births during the quarter.	Total deaths during the quarter.	Important causes of death.																								
				Typhoid Fever.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Croup.	Influenza.	Tuberculosis of the lungs.	Other forms of Tuberculosis.	Cancer.	Diabetes.	Epidemic Cerebrospinal Meningitis.	Acute Anterior Poliomyelitis.	Other diseases of the nervous system.	Diseases of heart and circulatory system.	Pneumonia, Bronchopneumonia.	Other diseases of respiratory system.	Diarrhea and Enteritis (under 2 years of age).	Bright's Disease.	The puerperal state.	Accidents.	Suicides.	Homicides.	Other causes.	
Phelps—	15,796																											
October.....		32	13	1				2									1				2							5
November.....		11	10							3			1				2	1				3						1
December.....		31	17				1		2	2						1		2	2	1		5						
Totals.....		74	40																									
Pike—	22,556																											
October.....		25	16	1						1		2					4	3				1					3	
November.....		28	19							1		1					3	1				4		2			6	
December.....		25	27						1	1		3	2				3	1	3				1				7	
Totals.....		78	62																									
Platte—	14,429																											
October.....		31	16	2						1							2	2		1		1					5	
November.....		27	13	1													1	3					1				6	
December.....		16	17	1					1	1								1	4	1		2					6	
Totals.....		74	46																									
Polk—	21,561																											
October.....		32	11															1		1		2					3	
November.....		45	13							3													1				4	
December.....		47	30							4	2	3						3	5	1		3		1			3	
Totals.....		124	54																									

[illegible]

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.

Counties.	Population, 1910.	Total births during the quarter.	Total deaths during the quarter.	Important causes of death.																								
				Typhoid Fever.	Smallpox.	Measles.	Scarlet Fever.	Whooping Cough.	Diphtheria and Croup.	Influenza.	Tuberculosis of the lungs.	Other forms of Tuberculosis.	Cancer.	Diabetes.	Epidemic Cerebrospinal Meningitis.	Acute Anterior Poliomyelitis.	Other diseases of the nervous system.	Diseases of heart and circulatory system.	Pneumonia, Bronchopneumonia.	Other diseases of respiratory system.	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.	The puerperal state.	Accidents.	Suicides.	Homicides.	Other causes.	
Ripley—	13,099																											
October.		26	8						1		1									1	2							3
November.		28									1										1							5
December.		26	15						1		1	1					1		4									
Totals.		60	23																									
St. Charles—	24,695																											
October.		31	15								2						2	2			1							6
November.		38	17								1	1					1	2			4	1						
December.		54	21							2	3	1					1	5	3		1	1						3
Totals.		123	53																									
St. Clair—	16,412																											
October.		34	19					1			4		1				2	3	1		2							5
November.		29	13	2					1		1						1	2	1		1							4
December.		38	15								1	1	1				1	3	3									7
Totals.		101	47																									
St. Francois—	35,738																											
October.		65	34						1		4		1				3	4	3		7	3						8
November.		69	42		1				3		6	1					4	5	6		4	4			2			
December.		68	40	1					1		2						4	3	11		1	7			1			9
Totals.		202	116																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.

Counties.	Population, 1910.....	Total births during the quarter.....	Total deaths during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup.....	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Bronchopneumonia.....	Other diseases of respiratory system.....	Diarrhoea and Enteritis (under 2 years of age).....	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Shelby—	14,864																											
October.....		18	10								2						1	1		1	3			1				1
November.....		23	5														1	1			2							3
December.....		24	10														2											5
Totals.....		65	96																									
Stoddard—	27,897																											
October.....		85	28	2					3		1	1						1			5	2						13
November.....		95	36	2				1	2		2						1	1		3	1							19
December.....		85	32	3				2	2	1	4		1					2	5	2	1	2	3					4
Totals.....		265	96																									
Stone—	11,559																											
October.....		29	6																1									4
November.....		24	9								1						1											7
December.....		23	7								3		1										1					2
Totals.....		76	22																									
Sullivan—	18,598																											
October.....		39	10										1				2			1								5
November.....		31	10	1							2			1														2
December.....		39	20							1			1				1		4									9
Totals.....		109	40																									

BIRTHS AND DEATHS REPORTED IN MISSOURI (STILLBIRTHS NOT INCLUDED) DURING THE QUARTER ENDING
DECEMBER 31, 1915—Continued.

Counties.	Population, 1910.....	Total b i r t h s during the quarter.....	Total d e a t h s during the quarter.....	Important causes of death.																								
				Typhoid Fever.....	Smallpox.....	Measles.....	Scarlet Fever.....	Whooping Cough.....	Diphtheria and Croup..	Influenza.....	Tuberculosis of the lungs.....	Other forms of Tuberculosis.....	Cancer.....	Diabetes.....	Epidemic Cerebrospinal Meningitis.....	Acute Anterior Poliomyelitis.....	Other diseases of the nervous system.....	Diseases of heart and circulatory system....	Pneumonia, Broncho-pneumonia.....	Other diseases of respiratory system.....	Diarrhea and Enteritis (under 2 years of age).	Acute Nephritis and Bright's Disease.....	The puerperal state.....	Accidents.....	Suicides.....	Homicides.....	Other causes.....	
Worth—	8,007																											
October.....		9	2																									1
November.....		7	3								1																	2
December.....		6	4								1	1					1							1				1
Totals.....		22	9																									
Wright—	18,315																											
October.....		31	5											1														1
November.....		38	12																									6
December.....		27	12											2					2				2					5
Totals.....		96	29																									
St. Louis City—	687,029																											
October.....		1254	780	7				1	2	19	52	10	53	15	2		65	139	78	24	32	80	7	40	12	9	133	
November.....		1115	813	4				1	2	24	82	8	56	8	1		64	122	79	16	28	97	4	43	31	8	135	
December.....		1215	1045	6					1	28	84	7	60	6			92	154	211	44	14	114	4	30	20	20	142	
Totals.....		3584	2638																									
Totals for State																												
October.....		6170	3028	71		1	5	11	93	5	263	38	176	31	2	1	277	365	185	60	163	264	31	137	34	18	797	
November.....		5451	3077	65	1	1	6	13	124	9	297	30	169	30	5	4	280	366	241	69	103	289	23	163	60	16	713	
December.....		6041	4332	44		2	5	15	99	134	388	48	189	34	3	4	349	470	821	143	145	355	25	145	50	33	831	
GRAND TOTALS.....		17,622	10437	180	1	4	16	39	316	148	948	116	534	95	10	9	906	1201	1247	272	411	908	79	445	144	67	2341	